EASTERN—WESTERN ARCTIC SEA ICE ANALYSES 1991

PREPARED BY
NAVAL POLAR OCEANOGRAPHY CENTER
SUITLAND, MD

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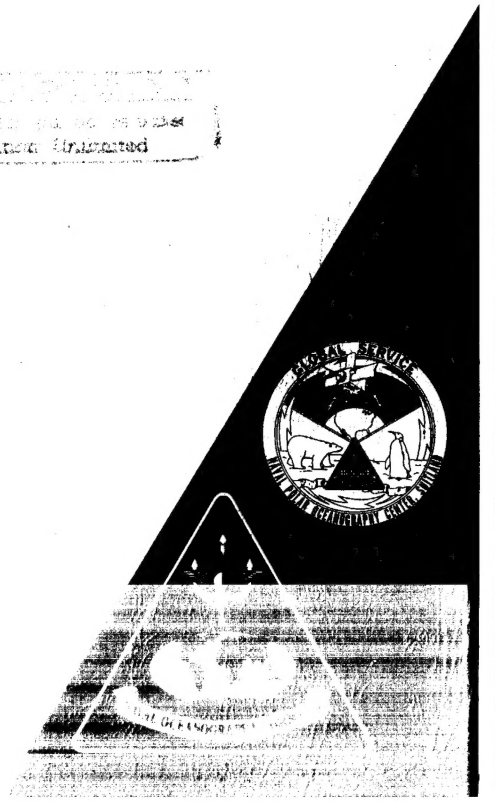

FOREWORD

The U.S. Navy has a long and eventful history of polar exploration from Robert E. Peary in the Arctic to Richard E. Byrd in the Antarctic. In recent years the strategic importance and expanded research pursuits in these areas have resulted in greater national and international requirements for environmental information. Since 1976, the National Oceanic and Atmospheric Administration (NOAA) and the Navy have worked together at the Joint Ice Center (JIC) in Suitland, Maryland. By combining the Navy's experience in observing and recording sea ice data, and NOAA's expertise in satellite data collection and interpretation, the JIC has been able to keep pace with that demand in both polar regions.

This publication is the 18th edition of the Arctic sea ice atlases prepared by the JIC. The atlas contains weekly charts depicting Northern Hemisphere and Great Lakes ice conditions and extent. The significant use of high resolution satellite imagery, combined with valuable ice reconnaissance data from various sources, has greatly improved the accuracy of these analyses.

The purpose of this atlas is to provide the user with reliable weekly hemispheric ice analyses. Both Navy and NOAA personnel with considerable experience in sea ice analysis prepare the analyses. The following procedures have been developed to ensure the quality of the final products:

a. Conventional shore station, ship and aerial ice reconnaissance observations are plotted and evaluated.

b. Satellite data from different sensors is compared and analyzed for ice information content. Table I, located on the inside back cover, summarizes satellite data availability for 1991.

c. A final product results from a. and b. However, where insufficient data is available, an estimated boundary will be depicted. Meteorological data and computer generated ice drift vectors are utilized to determine the estimated ice edge position.

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Naval Polar Oceanography Center
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Washington, DC 20395-5180

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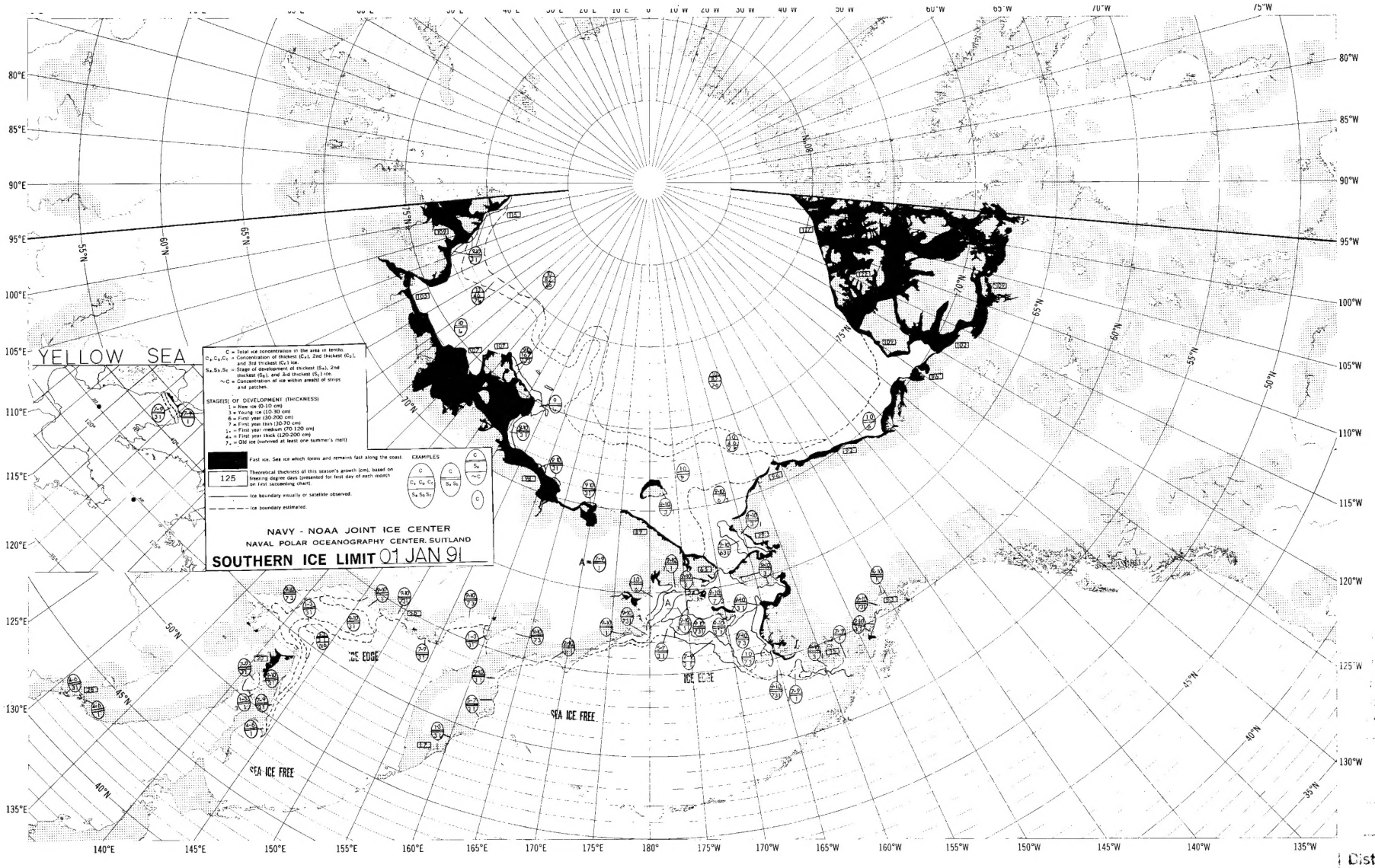
YELLOW SEA
C = Total ice concentration in the area in tenths.
$C_1 C_2 C_3$ = Concentration of thickest (C_1), 2nd thickest (C_2), and 3rd thickest (C_3) ice.
$S_a S_b S_c$ = Stage of development of thickest (S_a), 2nd thickest (S_b), and 3rd thickest (S_c) ice.
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STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
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4- = First year thick (120-200 cm)
7+ = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 01 JAN 91
ICE EDGE
SEA ICE FREE
ICE EDGE
SEA ICE FREE
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
80°W
85°W
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105°W
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115°W
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125°W
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135°W
140°E
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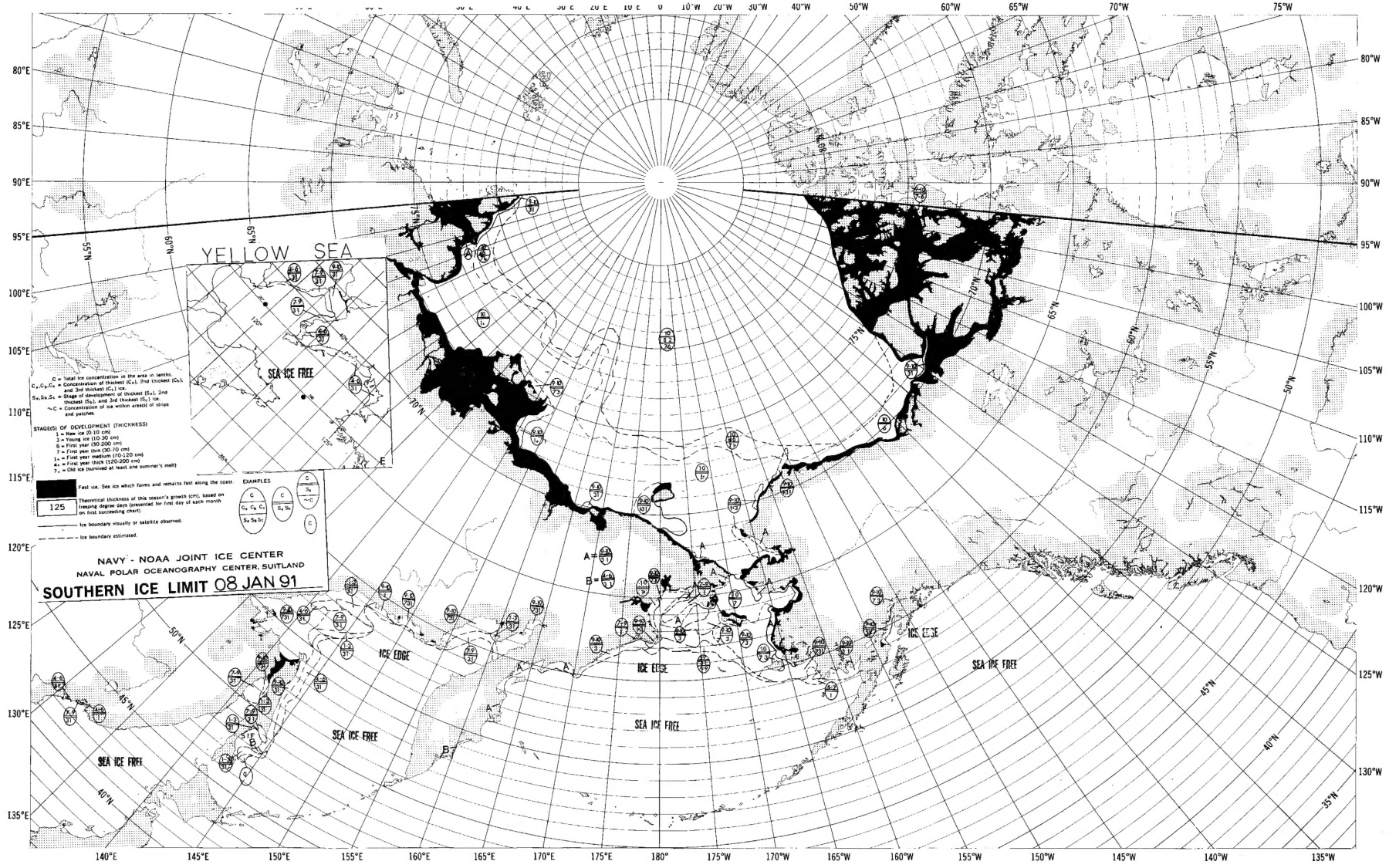
Dist
A-1


YELLOW SEA
SEA ICE FREE
ICE EDGE
SEA ICE FREE
ICE EDGE
SEA ICE FREE
ICE EDGE
SEA ICE FREE
SEA ICE FREE
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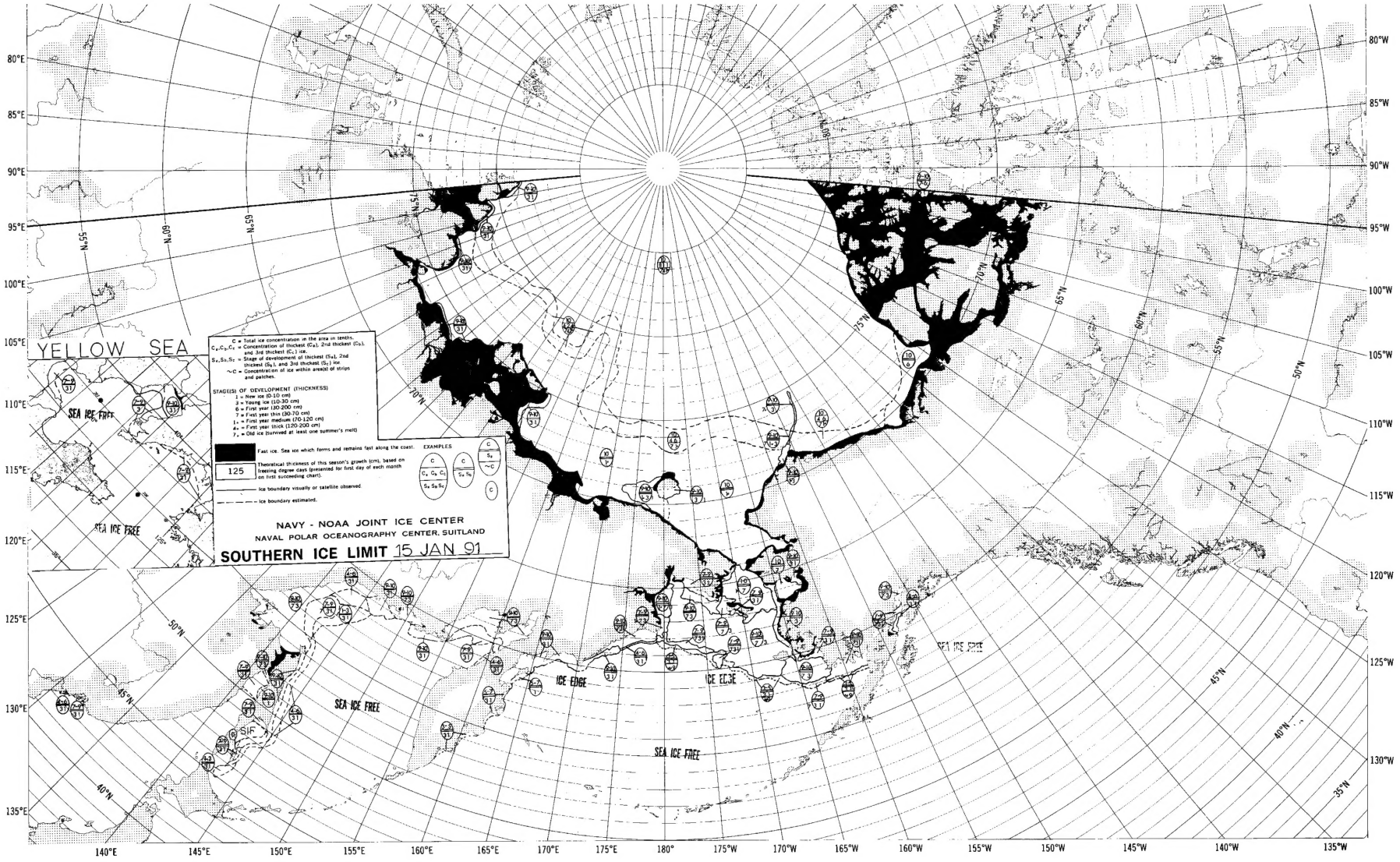
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 08 JAN 91


YELLOW SEA
SEA ICE FREE
SEA ICE FREE
SEA ICE FREE
SEA ICE FREE
SEA ICE FREE
ICE EDGE
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NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 15 JAN 91
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
80°W
85°W
90°W
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100°W
105°W
110°W
115°W
120°W
125°W
130°W
135°W
140°E
145°E
150°E
155°E
160°E
165°E
170°E
175°E
180°
175°W
170°W
165°W
160°W
155°W
150°W
145°W
140°W
135°W
70°N
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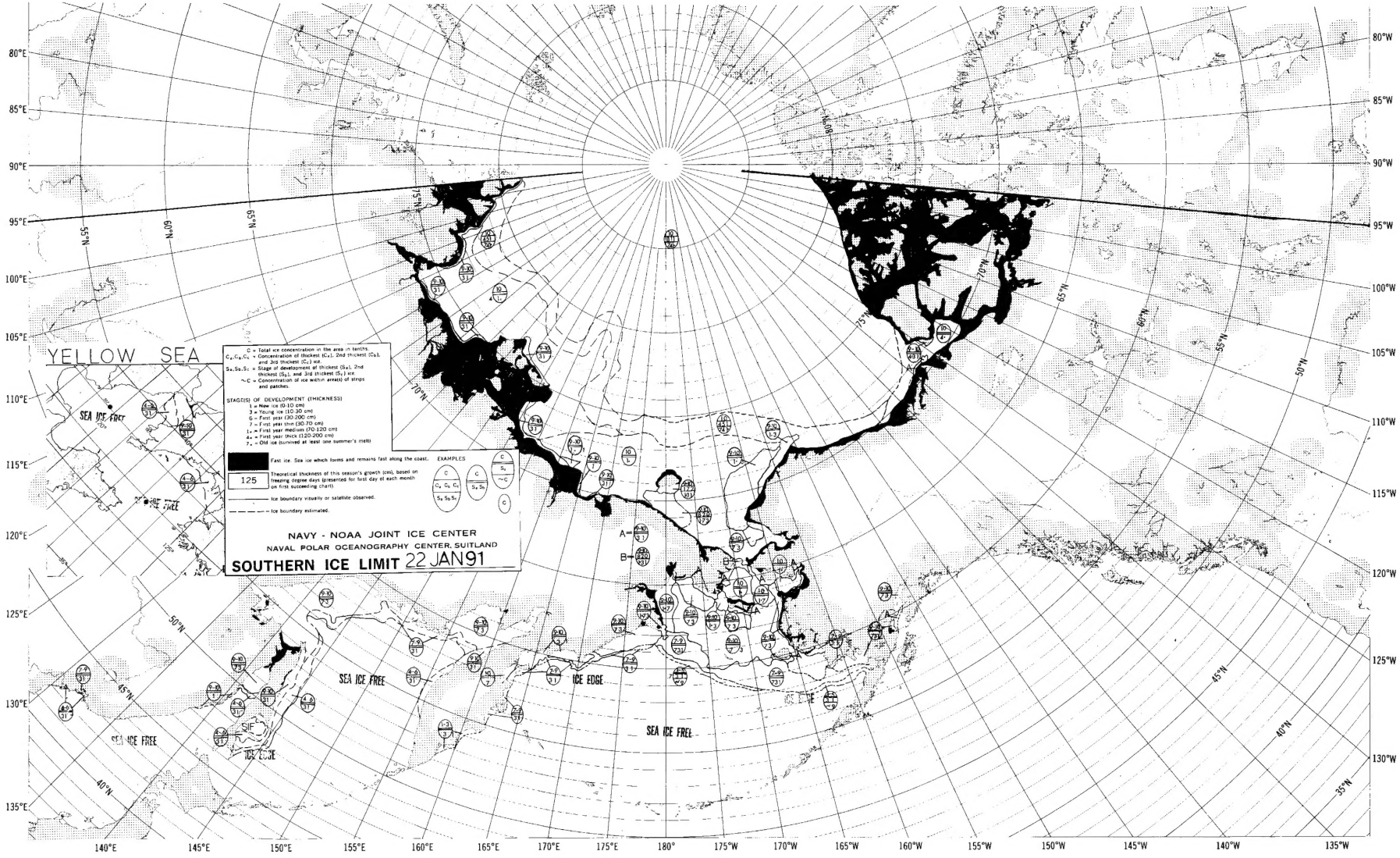
40°N
35°N
N.55
N.09
N.59
N.51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Ice boundary estimated.
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 22 JAN91
SEA ICE FREE
ICE EDGE
A
B
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
80°W
85°W
90°W
95°W
100°W
105°W
110°W
115°W
120°W
125°W
130°W
135°W
140°E
145°E
150°E
155°E
160°E
165°E
170°E
175°E
180°
175°W
170°W
165°W
160°W
155°W
150°W
145°W
140°W
135°W
55°N
60°N
65°N
70°N
75°N
80°N
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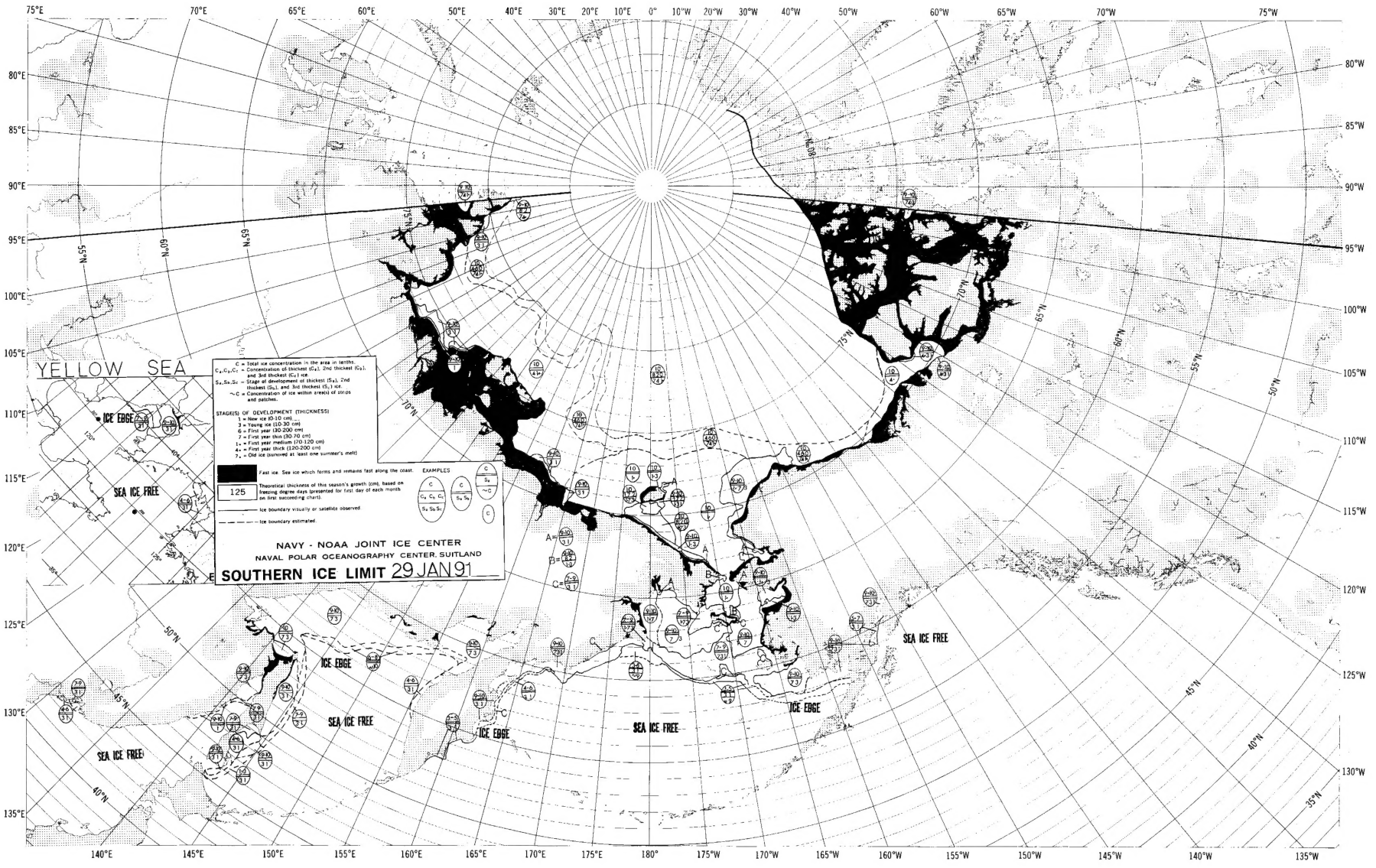
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ICE EDGE
SEA ICE FREE
ICE EDGE
SEA ICE FREE
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SEA ICE FREE
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Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for last day of each month on first succeeding chart).
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Ice boundary estimated.
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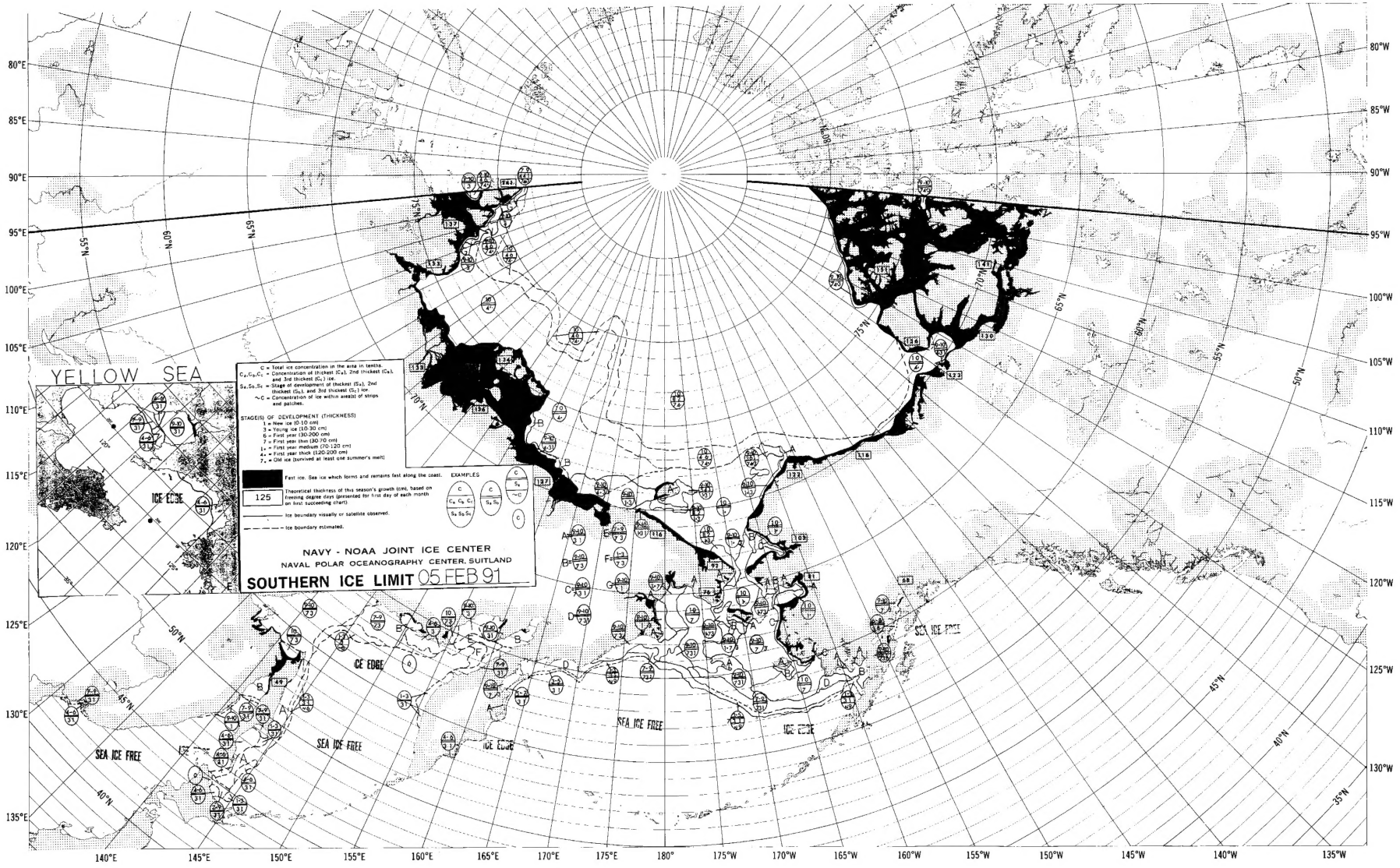
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 29 JAN 91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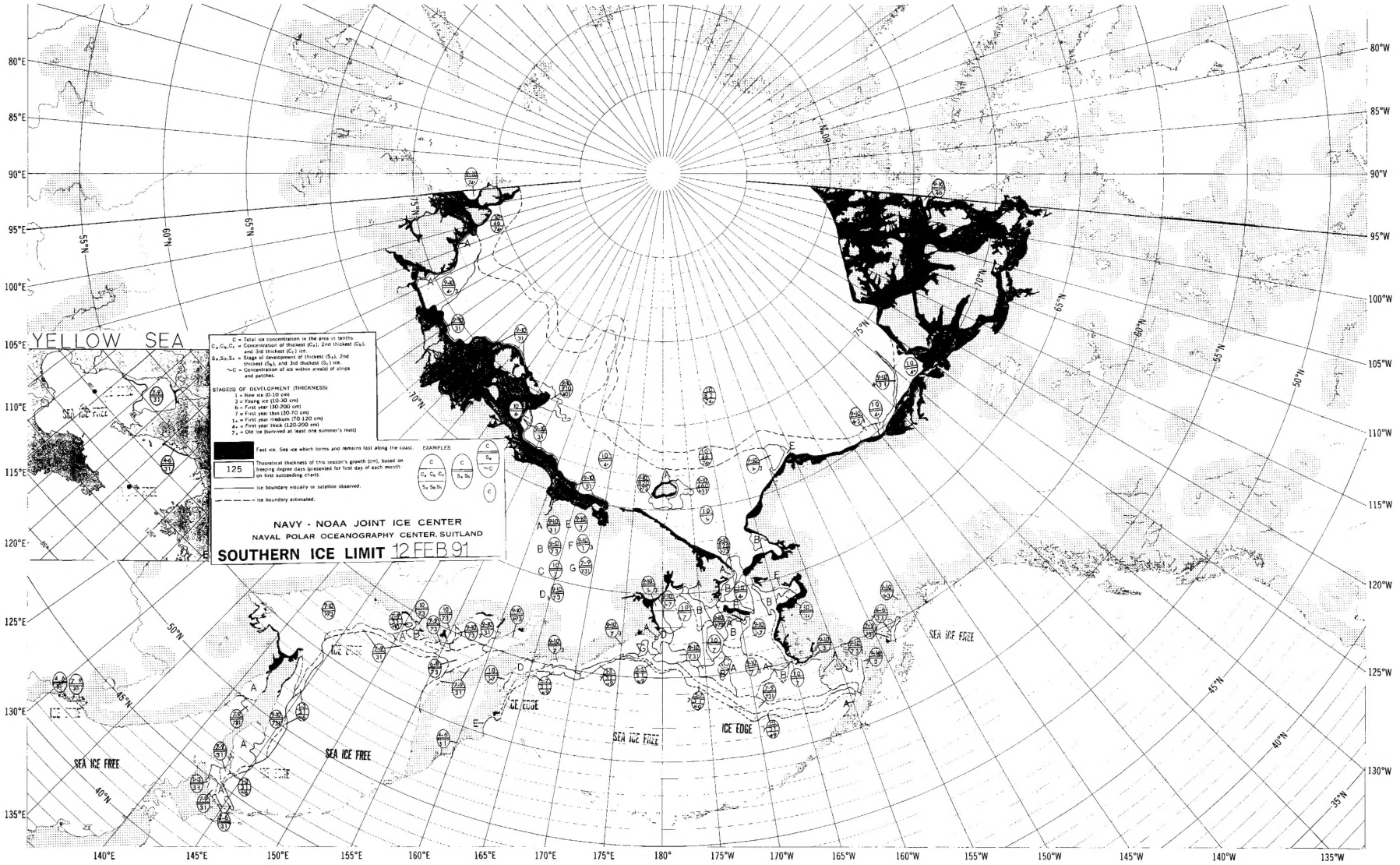
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 05 FEB 91
SEA ICE FREE
ICE EDGE
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
80°W
85°W
90°W
95°W
100°W
105°W
110°W
115°W
120°W
125°W
130°W
135°W
140°E
145°E
150°E
155°E
160°E
165°E
170°E
175°E
180°
175°W
170°W
165°W
160°W
155°W
150°W
145°W
140°W
135°W
50°N
45°N
40°N
35°N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NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 12 FEB 91
ICE EDGE
SEA ICE FREE
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
80°W
85°W
90°W
95°W
100°W
105°W
110°W
115°W
120°W
125°W
130°W
135°W
140°E
145°E
150°E
155°E
160°E
165°E
170°E
175°E
180°
175°W
170°W
165°W
160°W
155°W
150°W
145°W
140°W
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80°N
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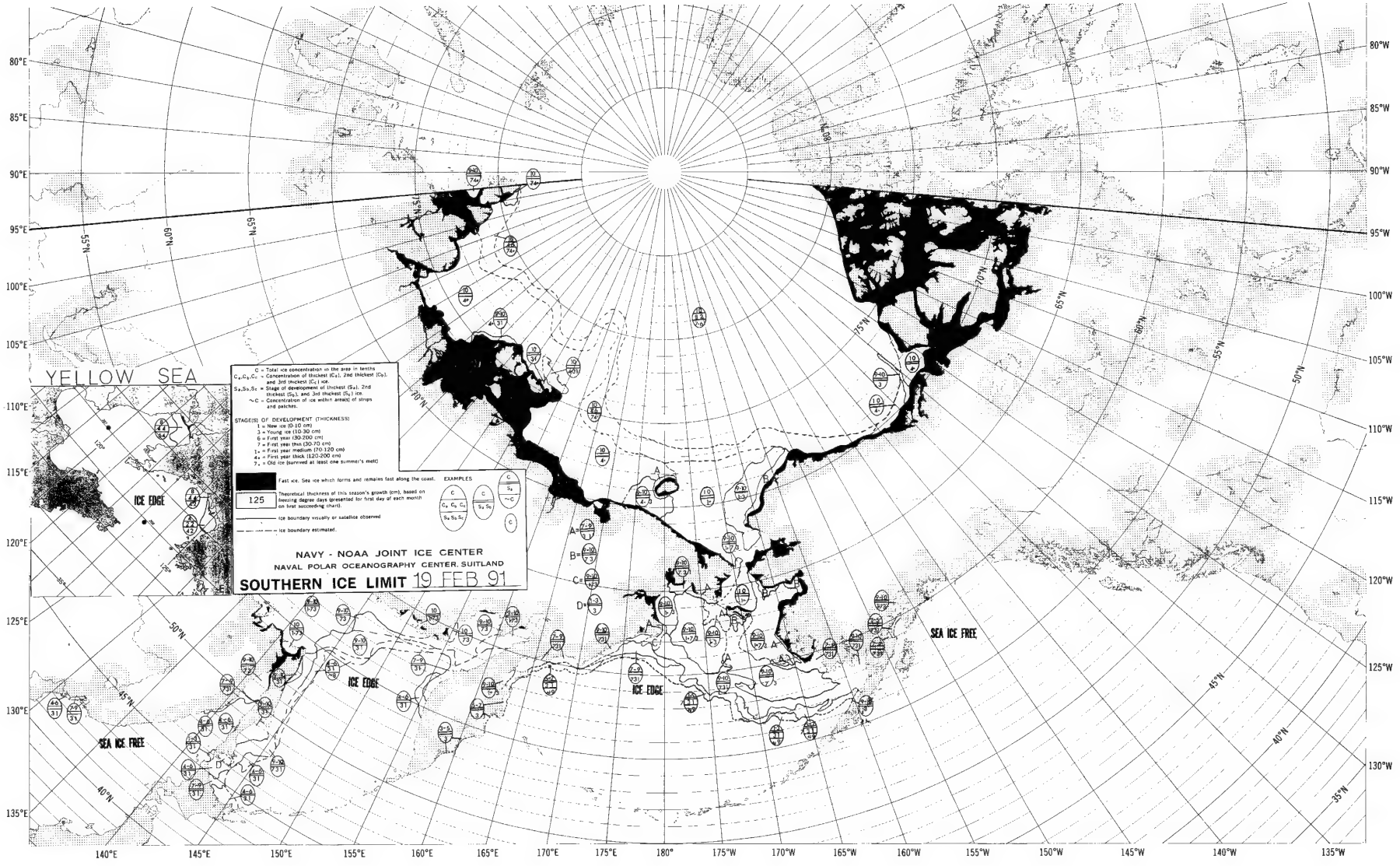
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NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 19 FEB 91
SEA ICE FREE
ICE EDGE
ICE EDGE
SEA ICE FREE
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
80°W
85°W
90°W
95°W
100°W
105°W
110°W
115°W
120°W
125°W
130°W
135°W
140°E
145°E
150°E
155°E
160°E
165°E
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175°E
180°
175°W
170°W
165°W
160°W
155°W
150°W
145°W
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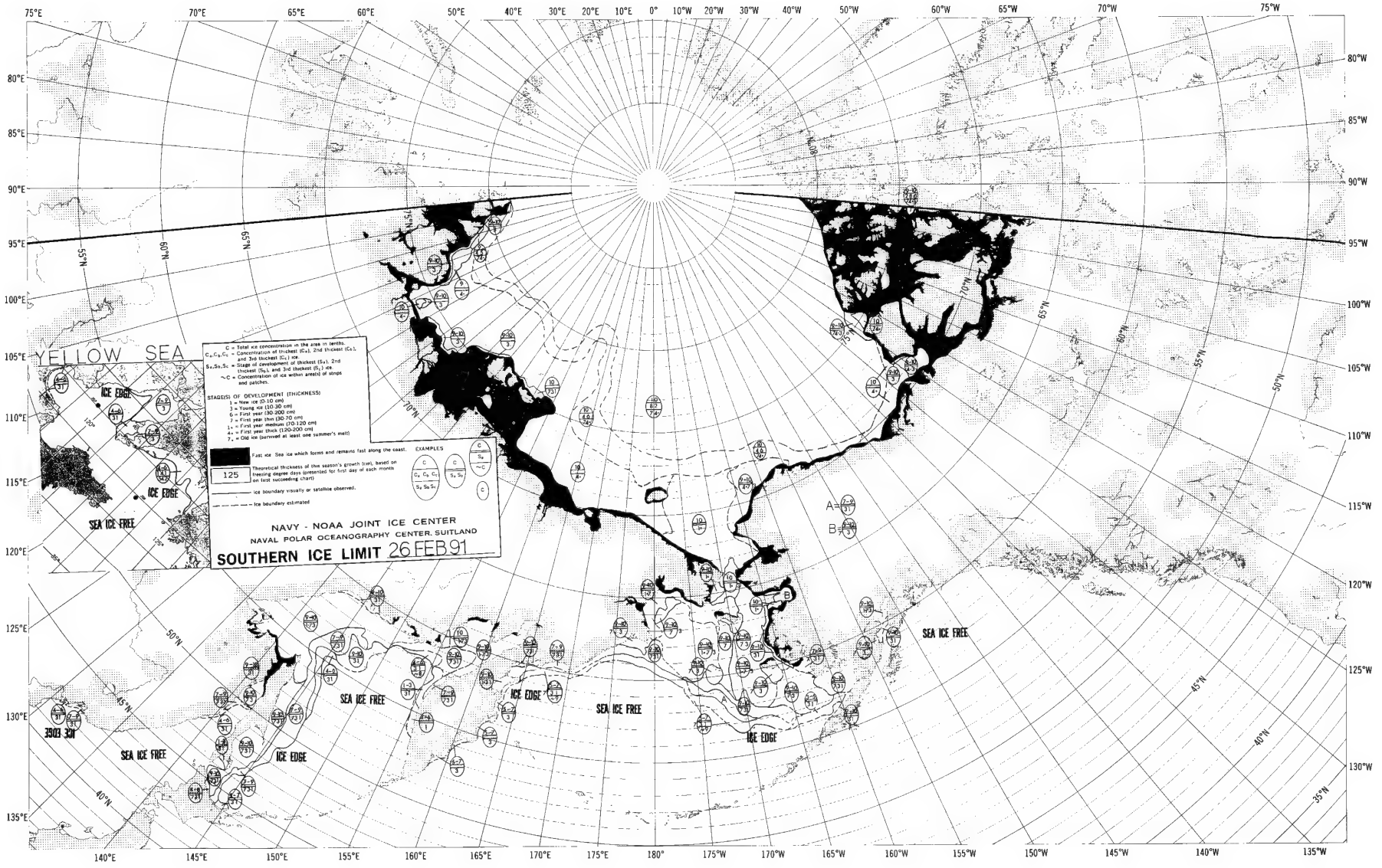
70°N
75°N
80°N
50°N
45°N
40°N
35°N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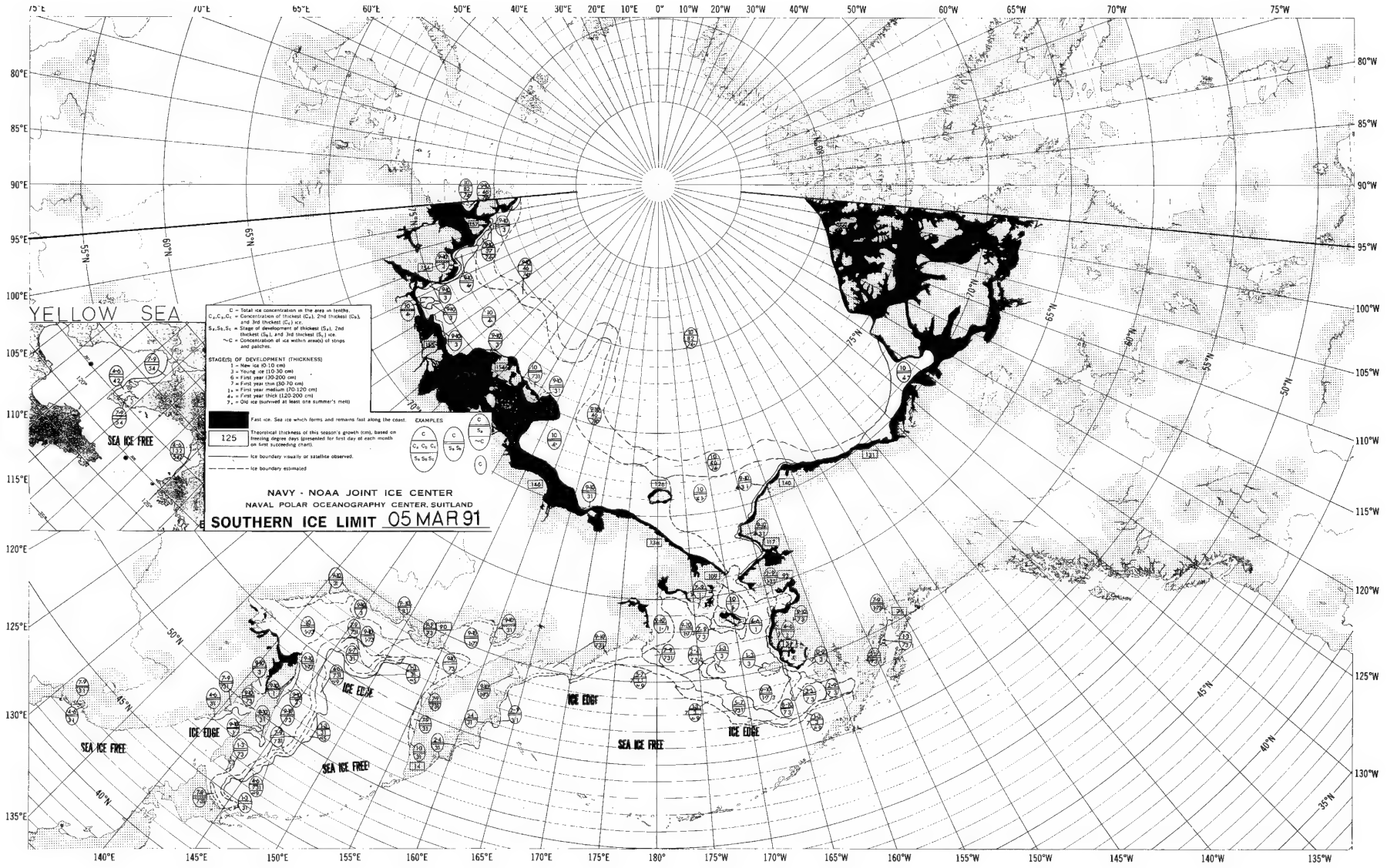
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 26 FEB 91
ICE EDGE
SEA ICE FREE
A
B
75°E 70°E 65°E 60°E 50°E 40°E 30°E 20°E 10°E 0° 10°W 20°W 30°W 40°W 50°W 60°W 65°W 70°W 75°W
80°E 85°E 90°E 95°E 100°E 105°E 110°E 115°E 120°E 125°E 130°E 135°E
80°W 85°W 90°W 95°W 100°W 105°W 110°W 115°W 120°W 125°W 130°W 135°W
N.55 N.09 N.59 N.54 N.08
70°N 65°N 60°N 55°N 50°N 45°N 40°N 35°N
140°E 145°E 150°E 155°E 160°E 165°E 170°E 175°E 180° 175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W 135°W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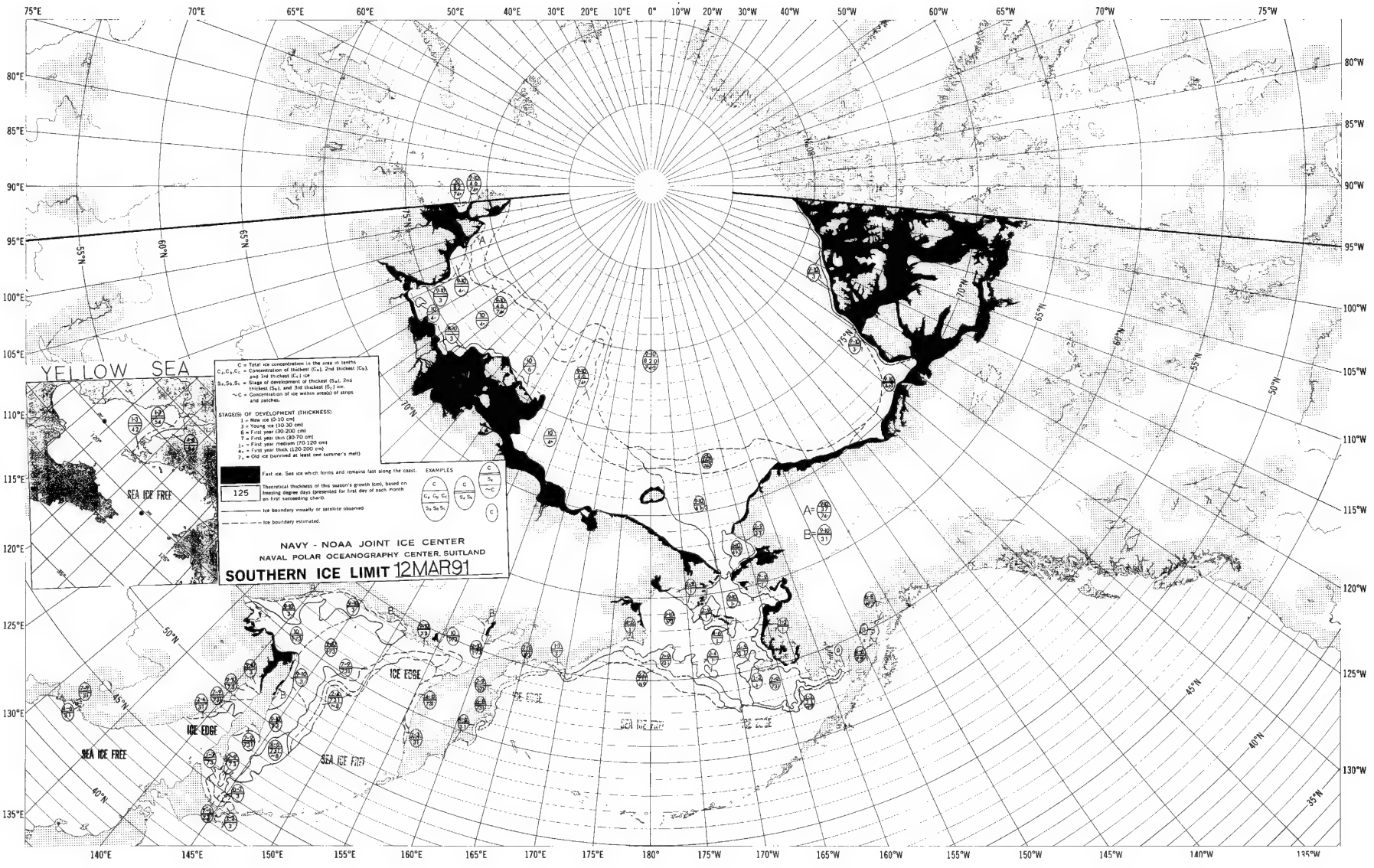
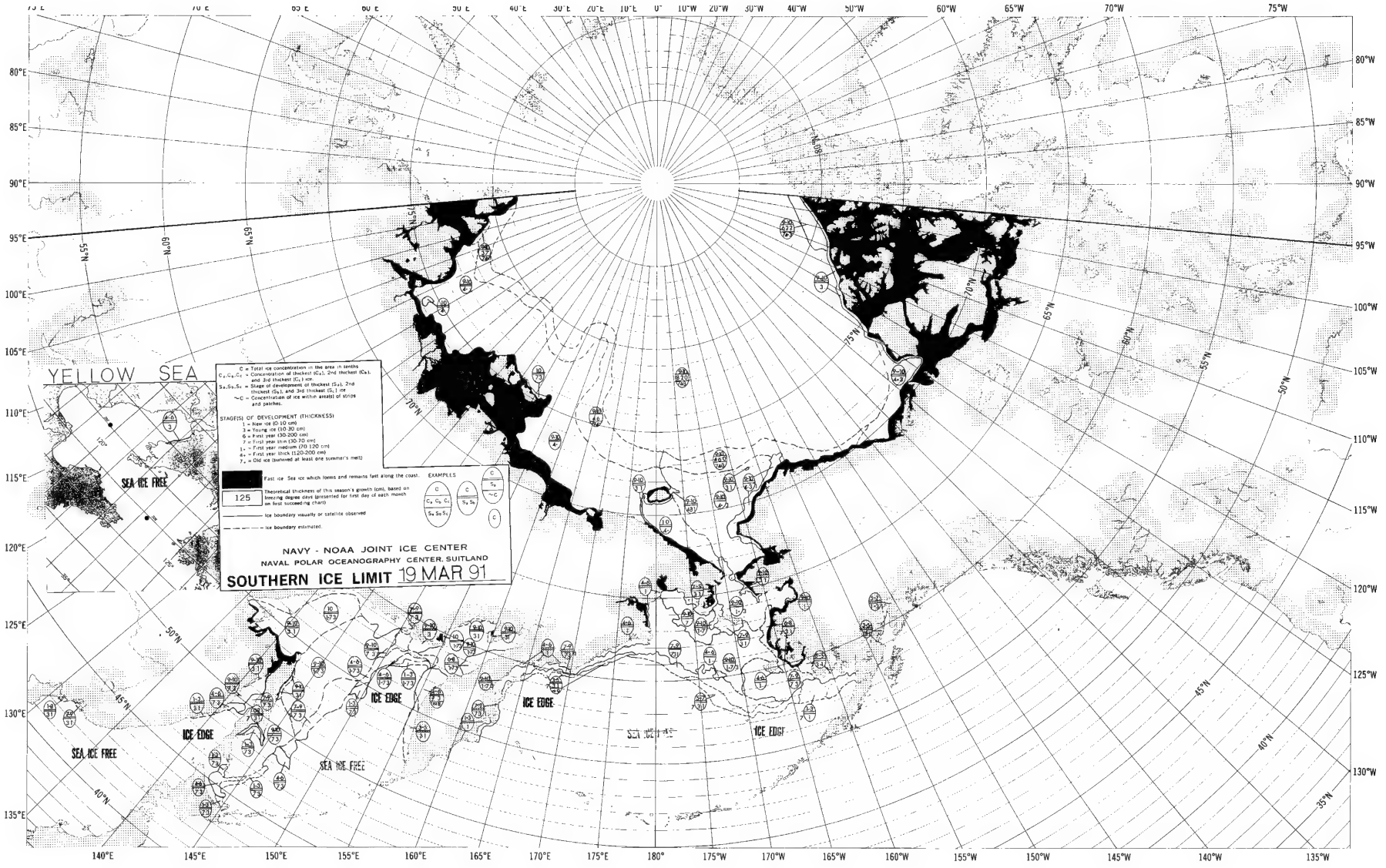
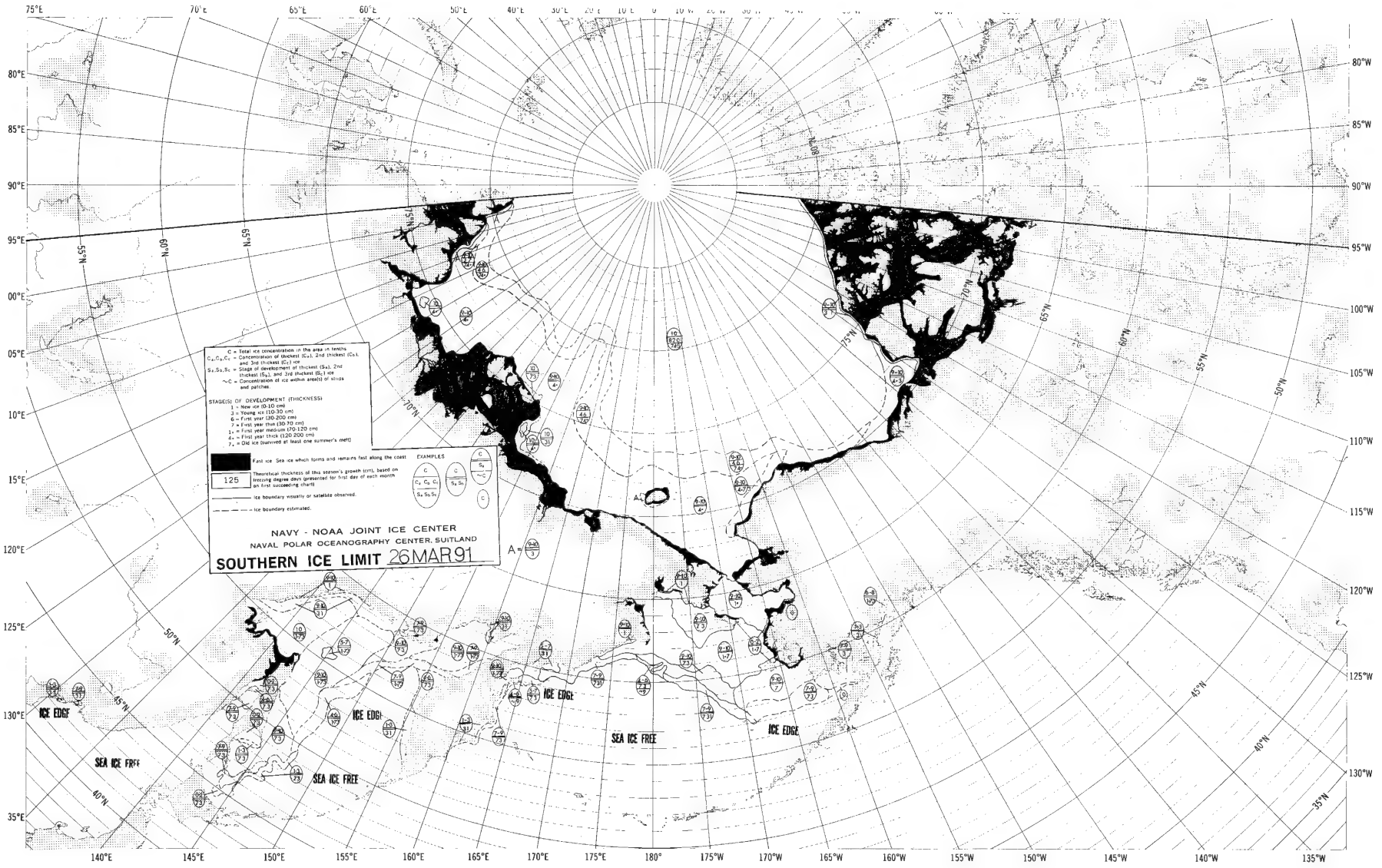
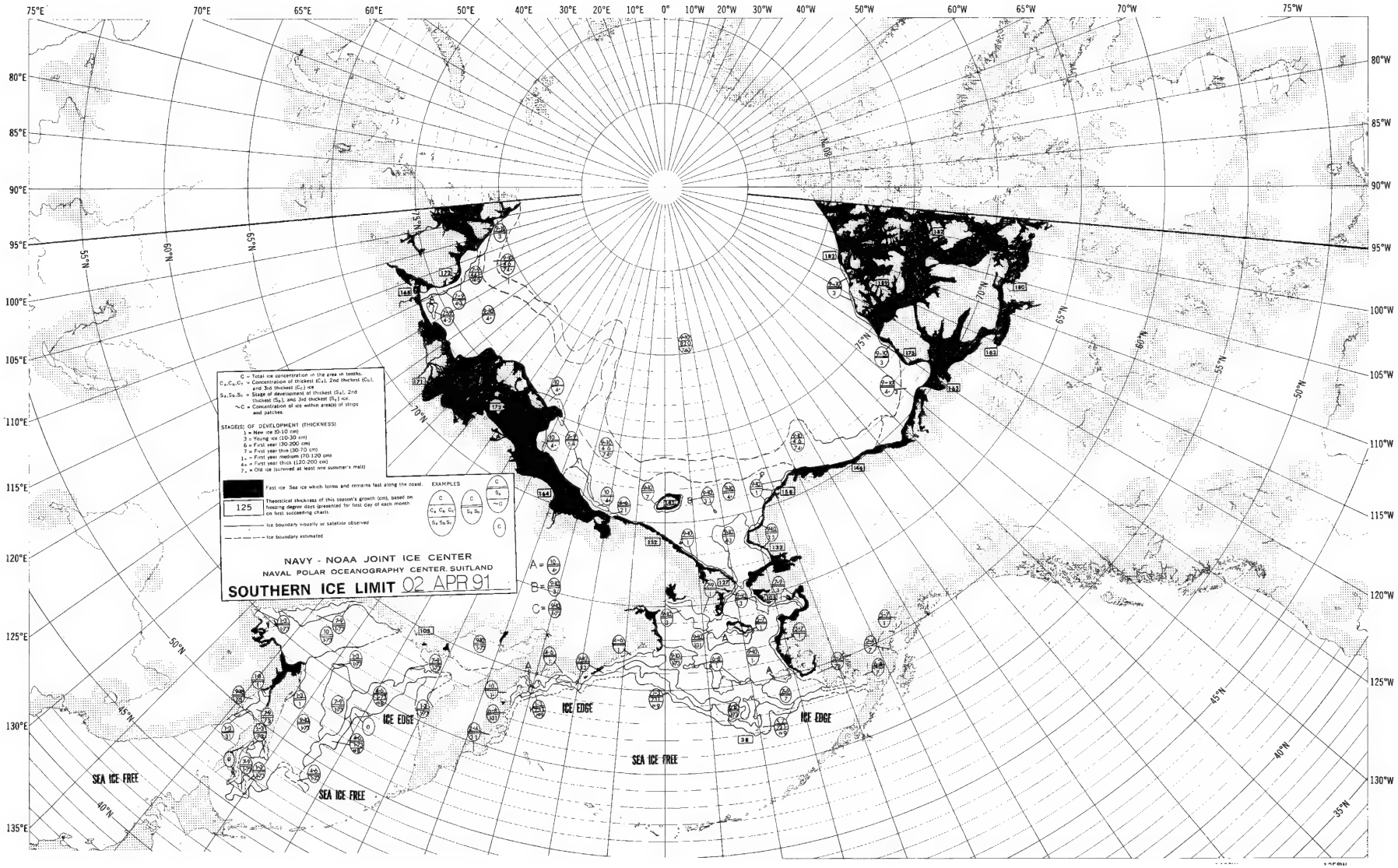
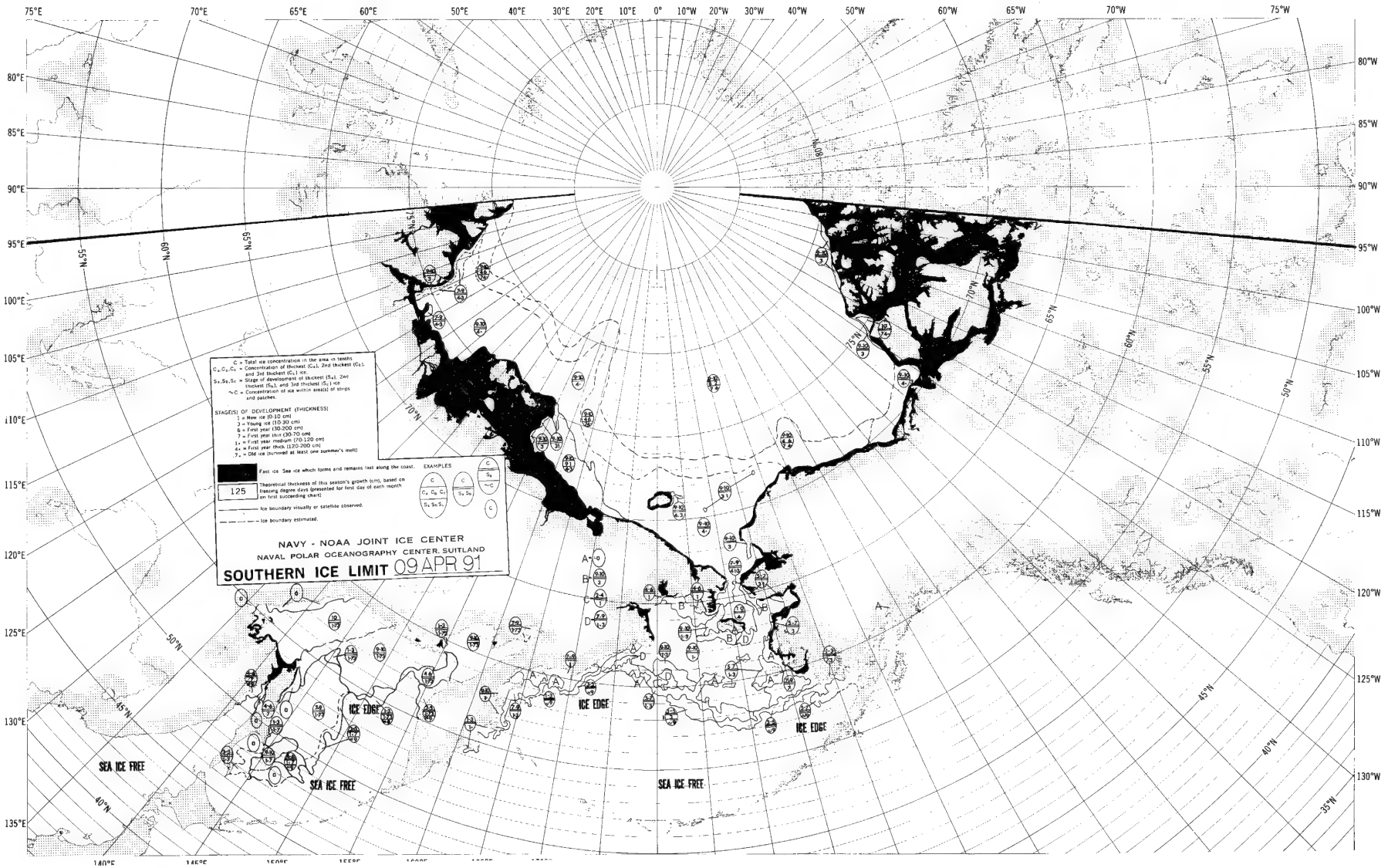
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 05 MAR 91
ICE EDGE
SEA ICE FREE
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
80°W
85°W
90°W
95°W
100°W
105°W
110°W
115°W
120°W
125°W
130°W
135°W
140°E
145°E
150°E
155°E
160°E
165°E
170°E
175°E
180°
175°W
170°W
165°W
160°W
155°W
150°W
145°W
140°W
135°W
55°N
60°N
65°N
70°N
75°N
50°N
45°N
40°N
35°N

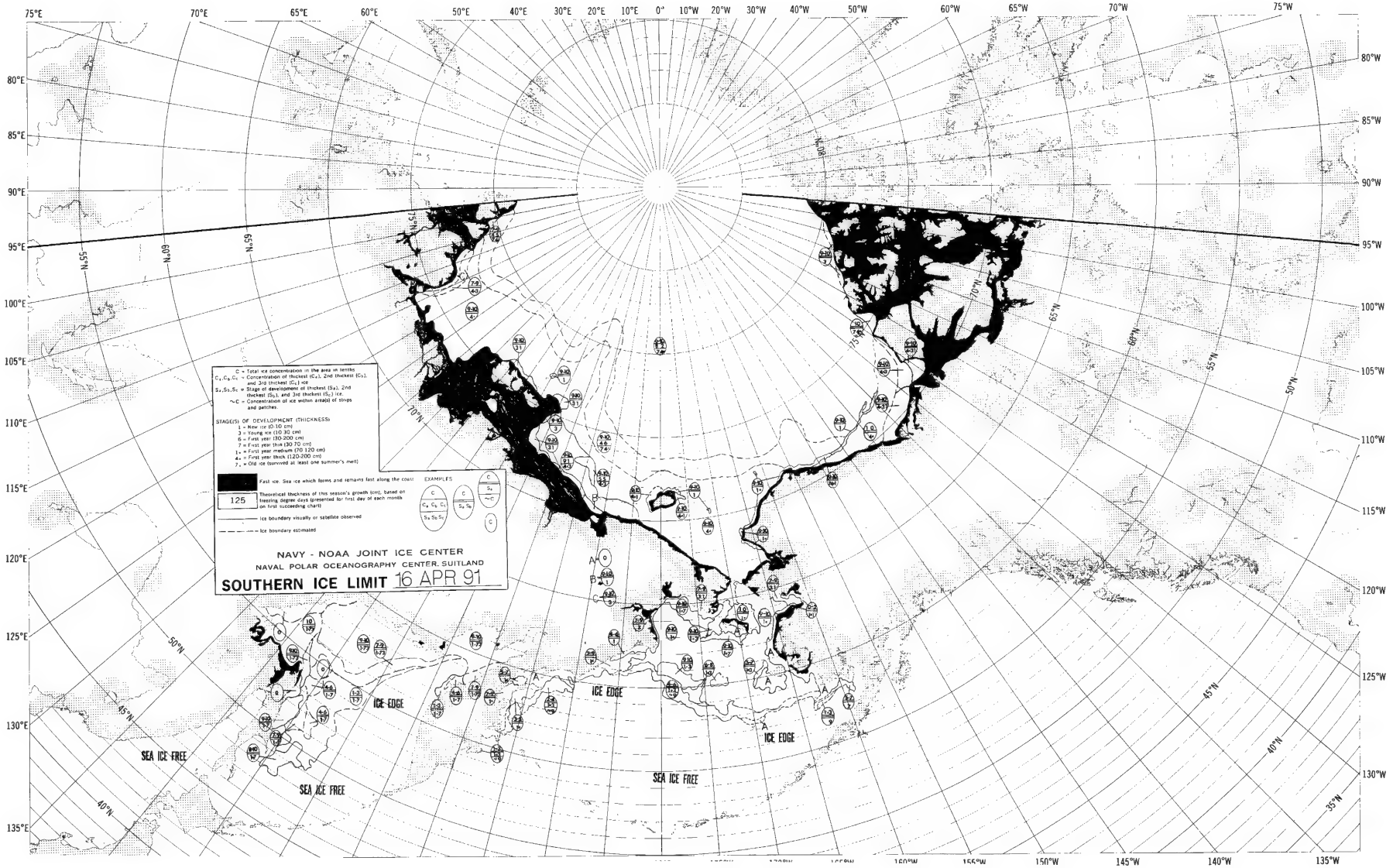

YELLOW SEA
SEA ICE FREE
C = Total ice concentration in the area in tenths
$C_a C_b C_c$ = Concentration of thickest (C_a), 2nd thickest (C_b), and 3rd thickest (C_c) ice
$S_a S_b S_c$ = Stage of development of thickest (S_a), 2nd thickest (S_b), and 3rd thickest (S_c) ice.
~C = Concentration of ice within area(s) of strips and patches.
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
6 = First year thin (30-70 cm)
7 = First year thick (70-120 cm)
4 = First year thick (120-200 cm)
7 = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast.
125
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed
Ice boundary estimated.
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 12MAR91
ICE EDGE
SEA ICE FREE
A
B

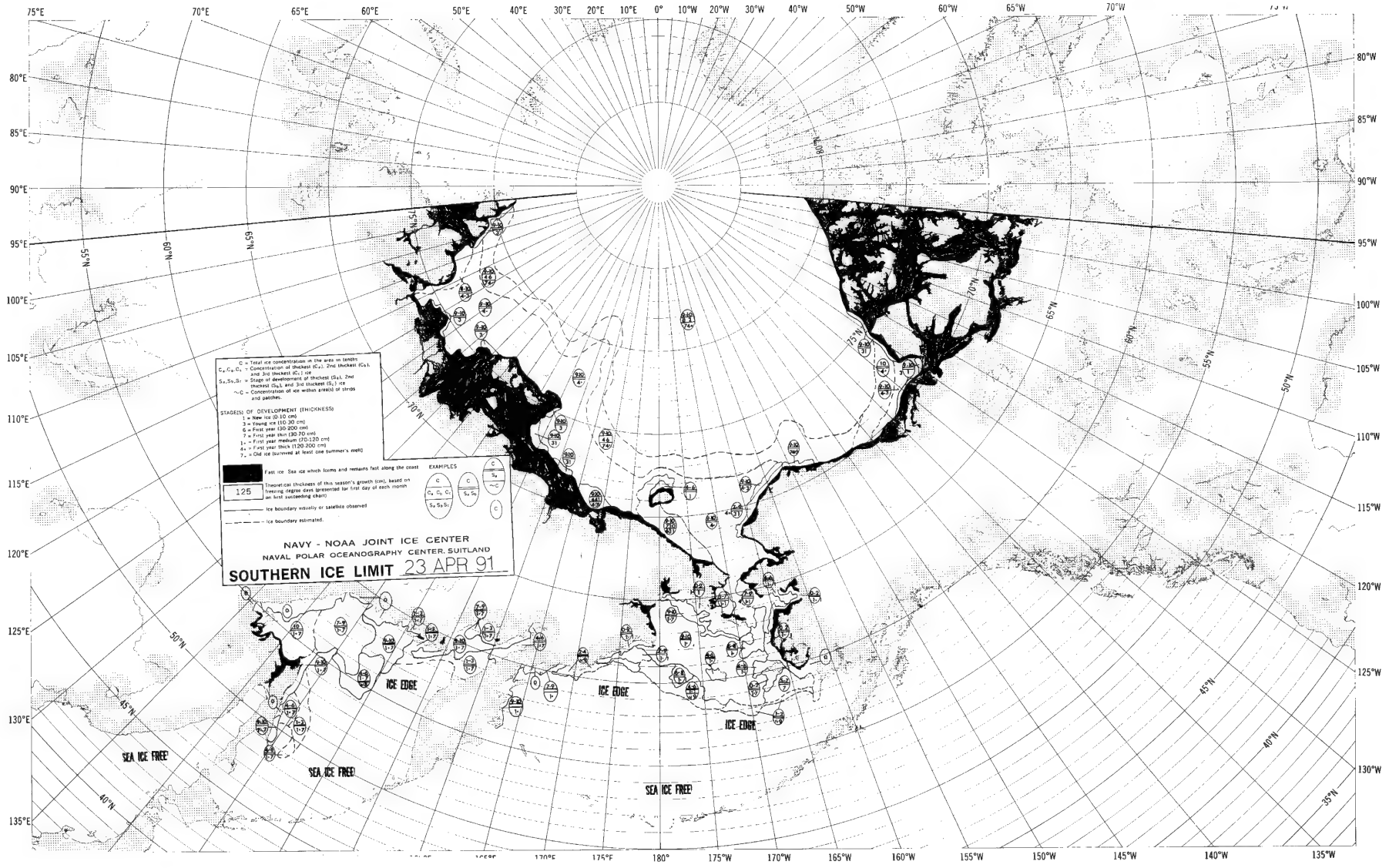

YELLOW SEA
SEA ICE FREE
ICE EDGE
ICE EDGE
ICE EDGE
SEA ICE FREE
SEA ICE FREE
SEA ICE FREE
ICE EDGE
C = Total ice concentration in the area in tenths
C1 C2 C3 = Concentration of thickest (C1), 2nd thickest (C2), and 3rd thickest (C3) ice
S1 S2 S3 = Stage of development of thickest (S1), 2nd thickest (S2), and 3rd thickest (S3) ice
~C = Concentration of ice within area(s) of strips and patches.
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
6 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1 = First year medium (70-120 cm)
4 = First year thick (120-200 cm)
7 = Old ice (survived at least one summer's melt)
Fast ice Sea ice which forms and remains fast along the coast.
125
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart)
Ice boundary visually or satellite observed
Ice boundary estimated.
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 19 MAR 91

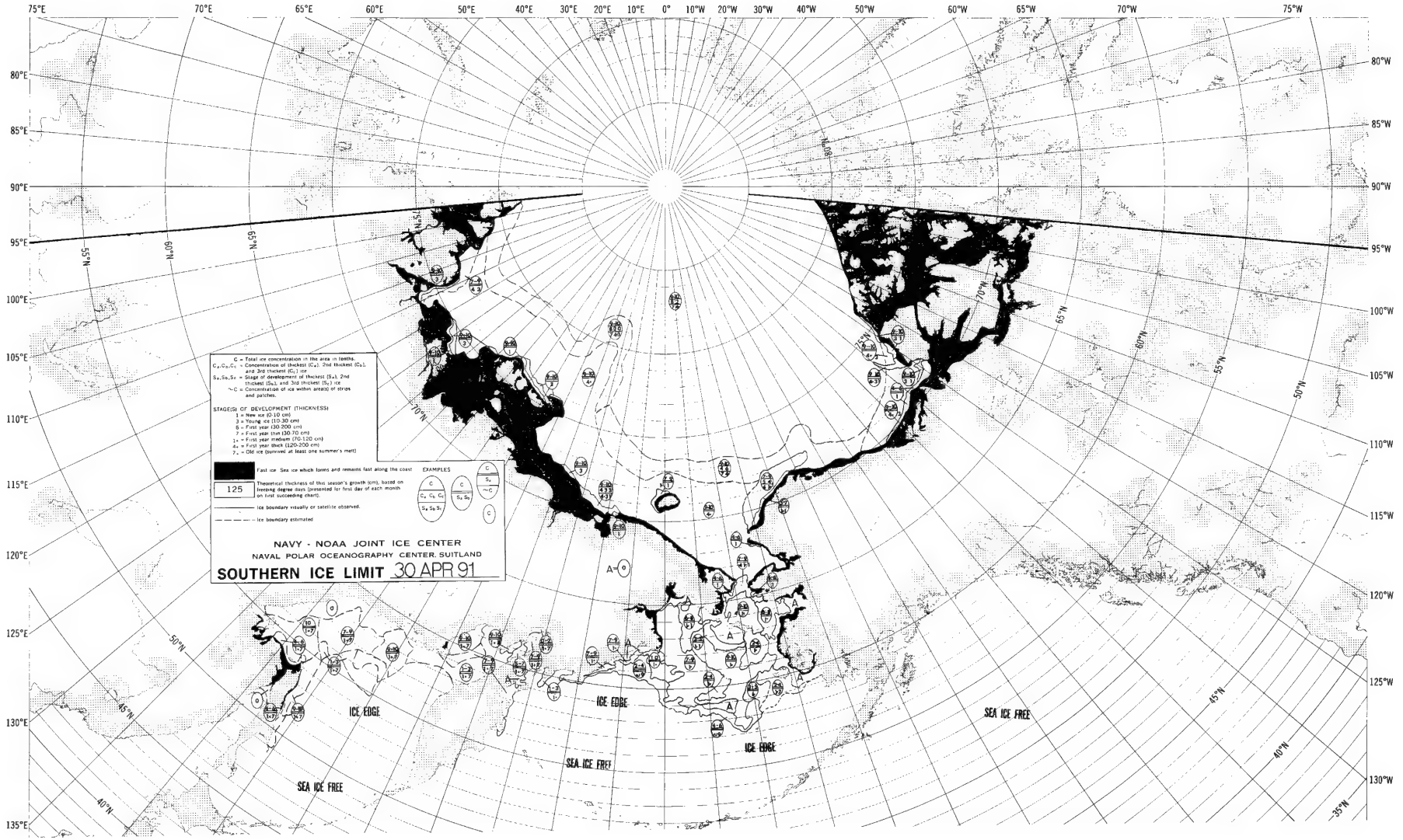

C = Total ice concentration in the area in tenths
$C_1 C_2 C_3$ = Concentration of thickest (C_1), 2nd thickest (C_2), and 3rd thickest (C_3) ice
$S_1 S_2 S_3$ = Stage of development of thickest (S_1), 2nd thickest (S_2), and 3rd thickest (S_3) ice
~C = Concentration of ice within area(s) of strips and patches.
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
6 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1. = First year medium (70-120 cm)
4. = First year thick (120-200 cm)
7. = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 26MAR91
ICE EDGE
SEA ICE FREE
ICE EDGE
SEA ICE FREE
ICE EDGE
SEA ICE FREE
ICE EDGE
75°E
70°E
65°E
60°E
50°E
80°E
85°E
90°E
95°E
00°E
05°E
10°E
15°E
120°E
125°E
130°E
35°E
80°W
85°W
90°W
95°W
100°W
105°W
110°W
115°W
120°W
125°W
130°W
135°W
140°E
145°E
150°E
155°E
160°E
165°E
170°E
175°E
180°
175°W
170°W
165°W
160°W
155°W
150°W
145°W
140°W
75°N
70°N
65°N
60°N
55°N
50°N
45°N
40°N
35°N

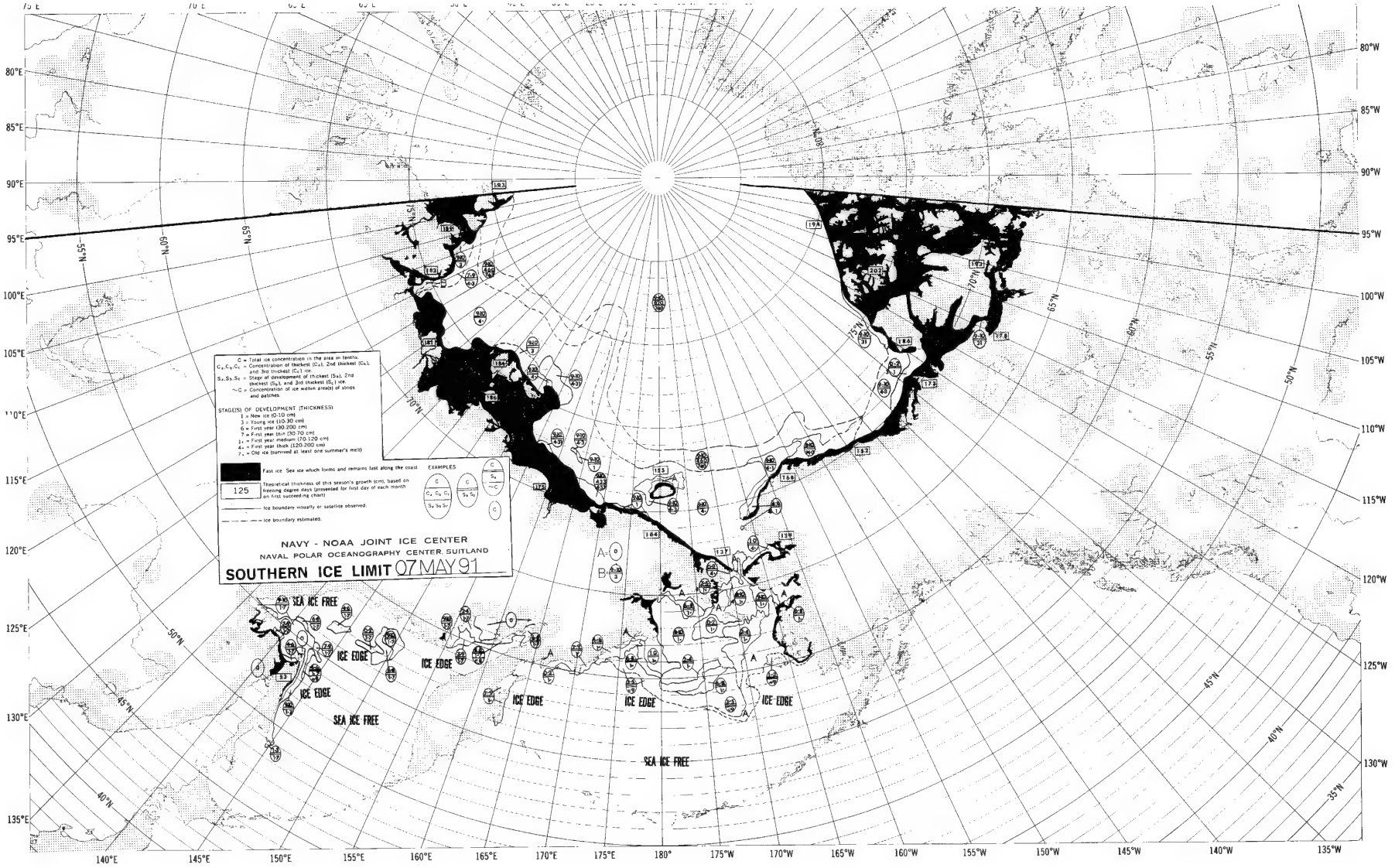

C = Total ice concentration in the area in tenths.
C1,C2,C3 = Concentration of thickest (C1), 2nd thickest (C2), and 3rd thickest (C3) ice
S1,S2,S3 = Stage of development of thickest (S1), 2nd thickest (S2), and 3rd thickest (S3) ice.
~C = Concentration of ice within areas of strips and patches.
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
6 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1. = First year medium (70-120 cm)
4. = First year thick (120-200 cm)
7. = Old ice (survived at least one summer's melt)
Fast ice Sea ice which forms and remains fast along the coast.
125
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for last day of each month on first succeeding chart).
Ice boundary visually or satellite observed
Ice boundary estimated
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 02 APR 91
A =
B =
C =
ICE EDGE
ICE EDGE
ICE EDGE
SEA ICE FREE
SEA ICE FREE
SEA ICE FREE
75°E
70°E
65°E
60°E
50°E
40°E
30°E
20°E
10°E
0°
10°W
20°W
30°W
40°W
50°W
60°W
65°W
70°W
75°W
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
80°W
85°W
90°W
95°W
100°W
105°W
110°W
115°W
120°W
125°W
130°W
55°N
60°N
65°N
70°N
75°N
80°N
50°N
45°N
40°N
35°N

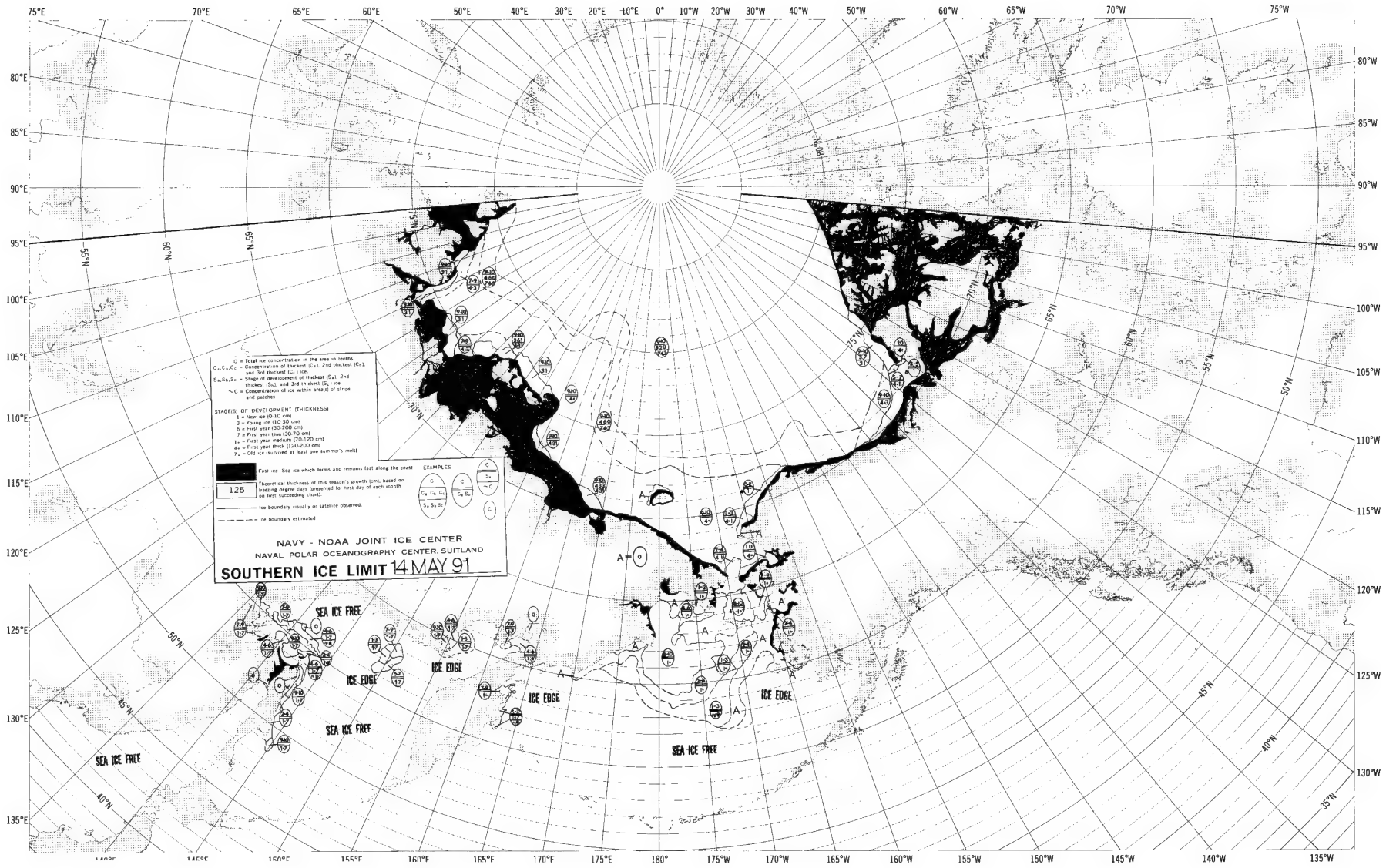

C = Total ice concentration in the area in tenths
$C_1 C_2 C_3$ = Concentration of thickest (C_1), 2nd thickest (C_2), and 3rd thickest (C_3) ice.
$S_1 S_2 S_3$ = Stage of development of thickest (S_1), 2nd thickest (S_2), and 3rd thickest (S_3) ice
~C = Concentration of ice within area(s) of strips and patches.
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
5 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1• = First year medium (70-120 cm)
4• = First year thick (120-200 cm)
7• = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart)
Ice boundary visually or satellite observed.
Ice boundary estimated.
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 09 APR 91
ICE EDGE
ICE EDGE
ICE EDGE
SEA ICE FREE
SEA ICE FREE
SEA ICE FREE
75°E
70°E
65°E
60°E
50°E
40°E
30°E
20°E
10°E
0°
10°W
20°W
30°W
40°W
50°W
60°W
65°W
70°W
75°W
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
80°W
85°W
90°W
95°W
100°W
105°W
110°W
115°W
120°W
125°W
130°W
N.80
N.75
N.70
N.65
N.60
N.55
N.50
N.45
N.40
70°N
75°N
65°N
60°N
55°N
50°N
45°N
40°N
35°N

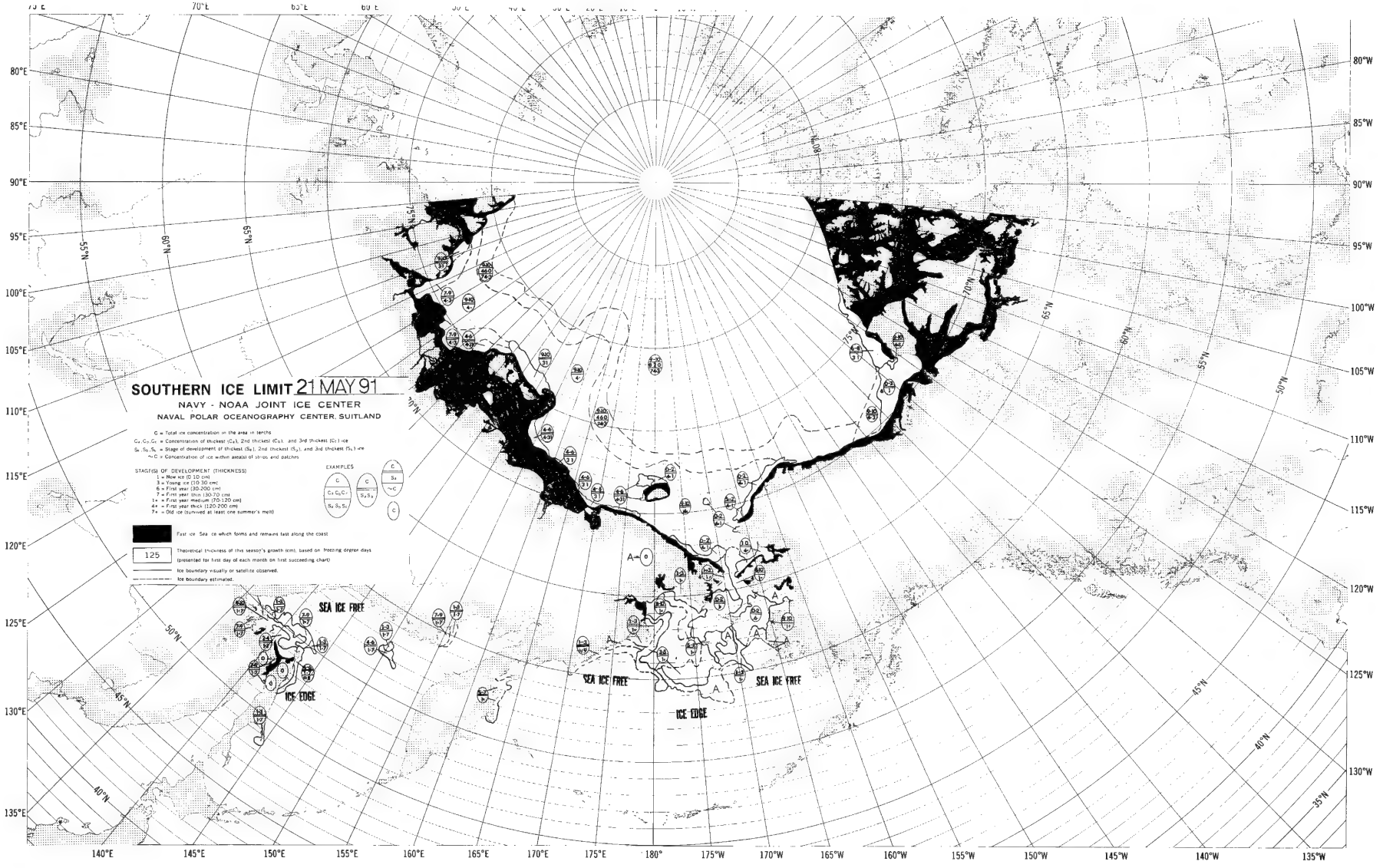

C = Total ice concentration in the area in tenths
C_1, C_2, C_3 = Concentration of thickest (C_1), 2nd thickest (C_2), and 3rd thickest (C_3) ice
S_1, S_2, S_3 = Stage of development of thickest (S_1), 2nd thickest (S_2), and 3rd thickest (S_3) ice.
$\sim C$ = Concentration of ice within area(s) of strips and patches.
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
5 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1_4 = First year medium (70-120 cm)
4_4 = First year thick (120-200 cm)
7_8 = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart)
Ice boundary visually or satellite observed
Ice boundary estimated
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 16 APR 91
ICE EDGE
SEA ICE FREE
75°E
70°E
65°E
60°E
50°E
40°E
30°E
20°E
10°E
0°
10°W
20°W
30°W
40°W
50°W
60°W
65°W
70°W
75°W
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
80°W
85°W
90°W
95°W
100°W
105°W
110°W
115°W
120°W
125°W
130°W
135°W
160°W
155°W
150°W
145°W
140°W
70°N
65°N
60°N
55°N
50°N
45°N
40°N
35°N

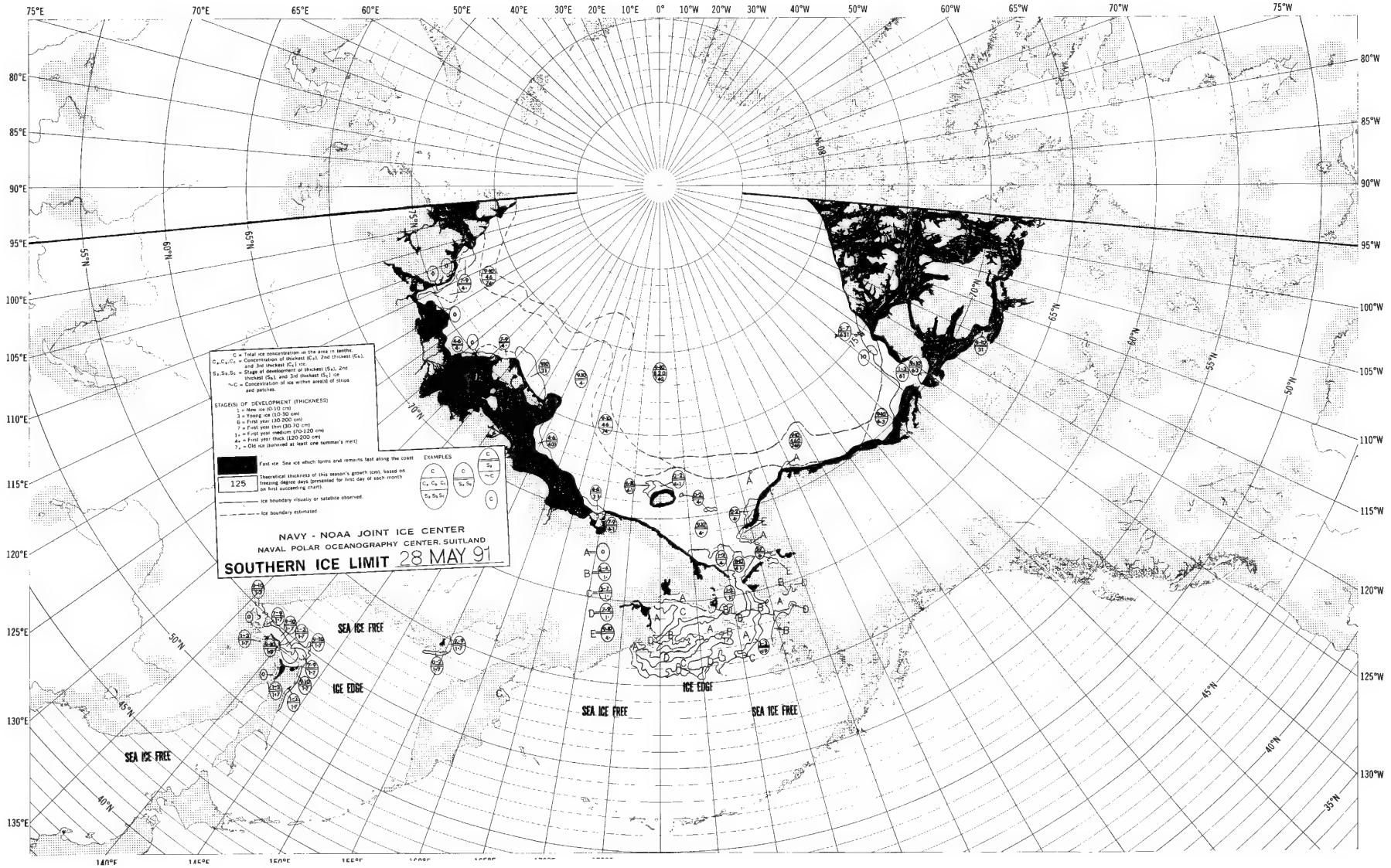

C = Total ice concentration in the area in tenths
$C_1 C_2 C_3$ = Concentration of thickest (C_1), 2nd thickest (C_2), and 3rd thickest (C_3) ice
$S_1 S_2 S_3$ = Stage of development of thickest (S_1), 2nd thickest (S_2), and 3rd thickest (S_3) ice
~C = Concentration of ice within area(s) of strips and patches.
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
6 = First year thin (30-70 cm)
7 = First year medium (70-120 cm)
4 = First year thick (120-200 cm)
7 = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast
125
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on next succeeding chart)
Ice boundary visually or satellite observed
Ice boundary estimated.
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 23 APR 91
ICE EDGE
ICE EDGE
ICE EDGE
SEA ICE FREE
SEA ICE FREE
SEA ICE FREE
75°E
70°E
65°E
60°E
50°E
40°E
30°E
20°E
10°E
0°
10°W
20°W
30°W
40°W
50°W
60°W
65°W
70°W
80°W
85°W
90°W
95°W
100°W
105°W
110°W
115°W
120°W
125°W
130°W
135°W
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
155°W
150°W
145°W
140°W
135°W
180°
175°W
170°W
165°W
160°W
175°E
170°E
50°N
45°N
40°N
35°N
70°N
75°N
80°N
55°N
60°N
65°N

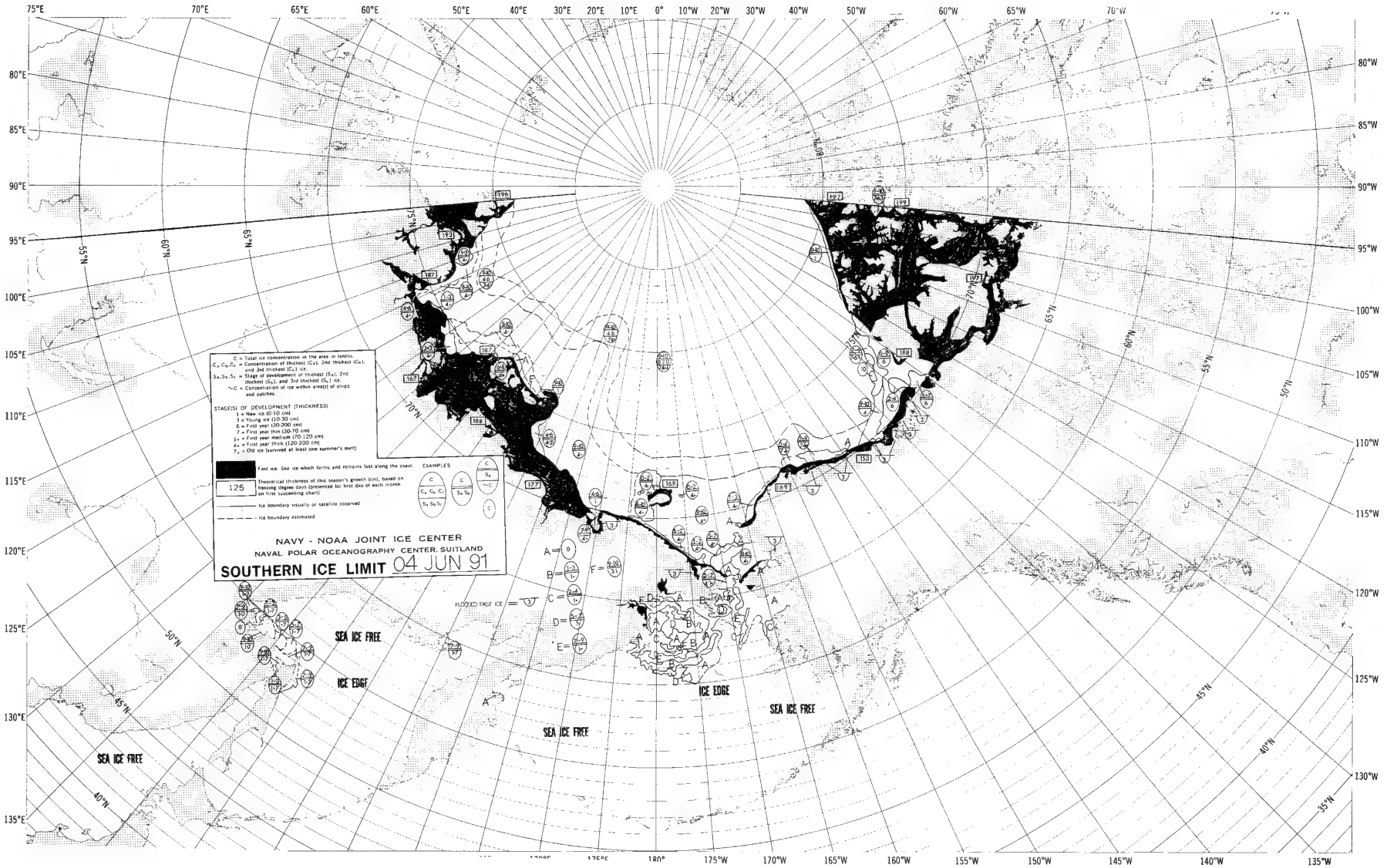

C = Total ice concentration in the area in tenths.
C1,C2,C3 = Concentration of thickest (C1), 2nd thickest (C2), and 3rd thickest (C3) ice
S1,S2,S3 = Stage of development of thickest (S1), 2nd thickest (S2) and 3rd thickest (S3) ice
~C = Concentration of ice within area(s) of strips and patches.
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
5 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1. = First year medium (70-120 cm)
4. = First year thick (120-200 cm)
7. = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast
125
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 30 APR 91
ICE EDGE
SEA ICE FREE
ICE EDGE
SEA ICE FREE
ICE EDGE
SEA ICE FREE
75°E
70°E
65°E
60°E
50°E
40°E
30°E
20°E
10°E
0°
10°W
20°W
30°W
40°W
50°W
60°W
65°W
70°W
75°W
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
80°W
85°W
90°W
95°W
100°W
105°W
110°W
115°W
120°W
125°W
130°W
55°N
60°N
65°N
70°N
50°N
45°N
40°N
35°N

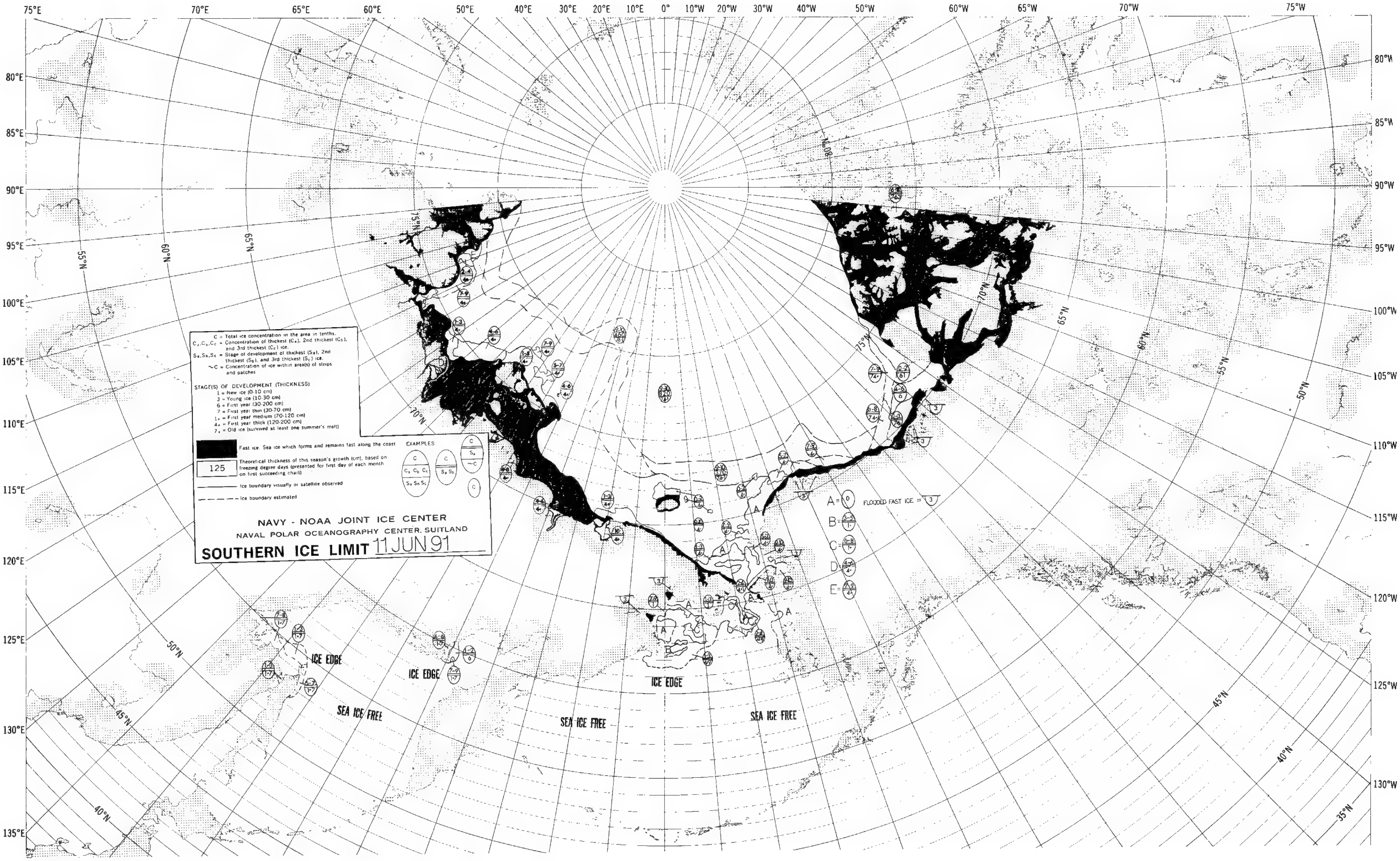

C = Total ice concentration in the area in tenths.
$C_1C_2C_3$ = Concentration of thickest (C_1), 2nd thickest (C_2), and 3rd thickest (C_3) ice.
$S_1S_2S_3$ = Stage of development of thickest (S_1), 2nd thickest (S_2), and 3rd thickest (S_3) ice.
~C = Concentration of ice within areas of strips and patches.
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
6 = First year (30-200 cm)
7 = First year thin (30-70 cm)
4 = First year medium (70-120 cm)
5 = First year thick (120-200 cm)
7 = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart)
Ice boundary visually or satellite observed.
Ice boundary estimated.
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER SUITLAND
SOUTHERN ICE LIMIT 07MAY91
SEA ICE FREE
ICE EDGE
ICE EDGE
ICE EDGE
SEA ICE FREE
ICE EDGE
ICE EDGE
SEA ICE FREE
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
140°E
145°E
150°E
155°E
160°E
165°E
170°E
175°E
180°
175°W
170°W
165°W
160°W
155°W
150°W
145°W
140°W
135°W
80°W
85°W
90°W
95°W
100°W
105°W
110°W
115°W
120°W
125°W
130°W
135°W
55°N
50°N
45°N
40°N
35°N
65°N
60°N
55°N
50°N
45°N
40°N
35°N


C = Total ice concentration in the area in tenths.
$C_t C_2 C_3$ = Concentration of thickest (C_t), 2nd thickest (C_2), and 3rd thickest (C_3) ice.
$S_t S_2 S_3$ = Stage of development of thickest (S_t), 2nd thickest (S_2), and 3rd thickest (S_3) ice
$\sim C$ = Concentration of ice within area(s) of strips and patches
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
2 = Young ice (10-30 cm)
3 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1. = First year medium (70-120 cm)
4. = First year thick (120-200 cm)
7. = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast
125
Theoretical thickness of this season's growth (cm), based on freezing degree days (forecasted for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 14 MAY 91
SEA ICE FREE
ICE EDGE
ICE EDGE
ICE EDGE
ICE EDGE
SEA ICE FREE
SEA ICE FREE
SEA ICE FREE
75°E
70°E
65°E
60°E
50°E
40°E
30°E
20°E
10°E
0°
10°W
20°W
30°W
40°W
50°W
60°W
65°W
70°W
75°W
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
80°W
85°W
90°W
95°W
100°W
105°W
110°W
115°W
120°W
125°W
130°W
135°W
55°N
50°N
45°N
40°N
35°N
75°N
70°N
65°N
60°N
55°N
50°N
45°N
40°N
145°E
150°E
155°E
160°E
165°E
170°E
175°E
180°
175°W
170°W
165°W
160°W
155°W
150°W
145°W
140°W
135°W

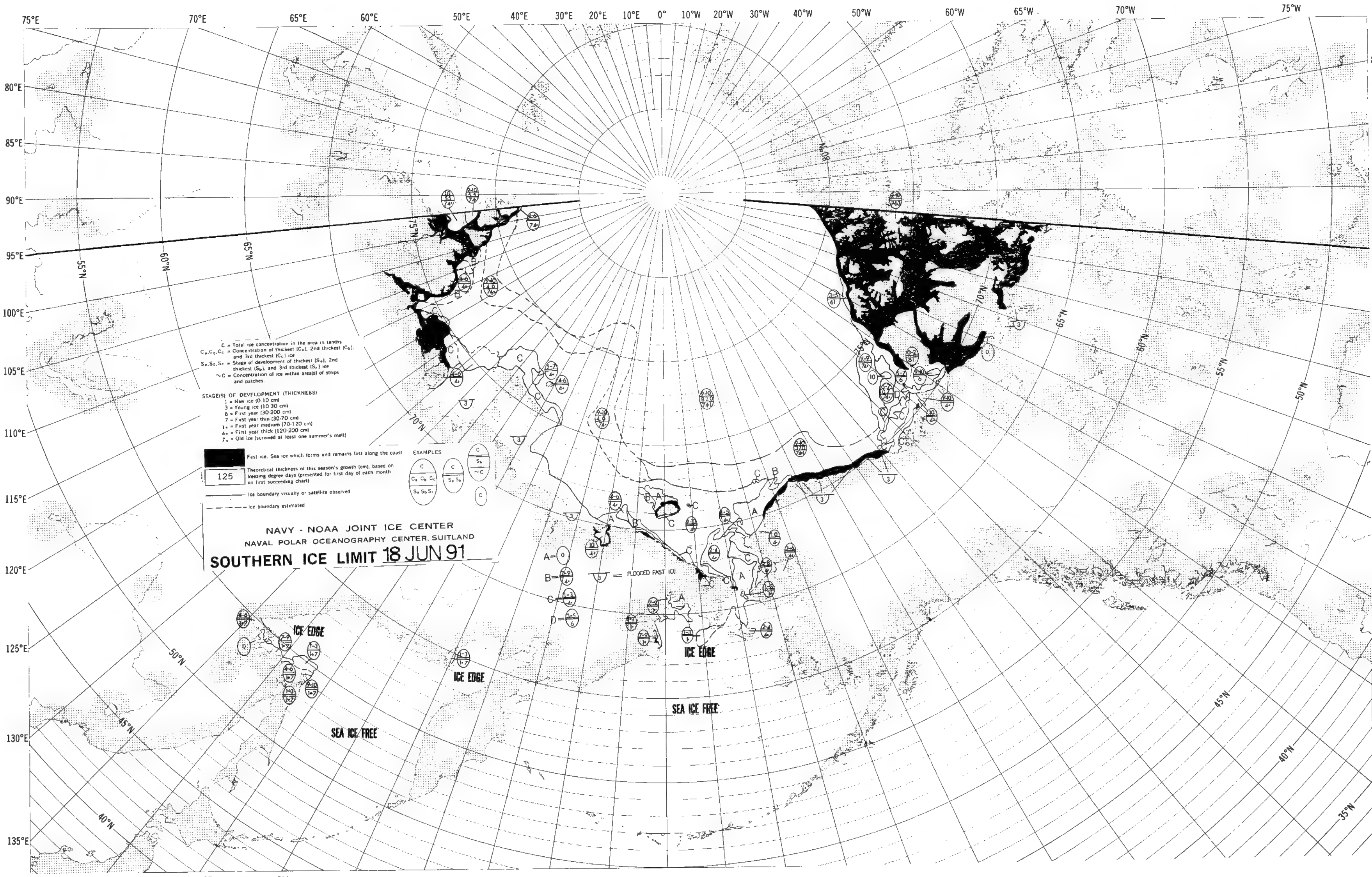

SOUTHERN ICE LIMIT 21 MAY 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
C = Total ice concentration in the area in tenths
$C_A C_B C_C$ = Concentration of thickest (C_A), 2nd thickest (C_B), and 3rd thickest (C_C) ice
$S_A S_B S_C$ = Stage of development of thickest (S_A), 2nd thickest (S_B), and 3rd thickest (S_C) ice
~C = Concentration of ice within areas of strius and patches
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
6 = First year (30-200 cm)
7 = First year: thin (30-70 cm)
1• = First year: medium (70-120 cm)
4• = First year: thick (120-200 cm)
7• = Old ice (survived at least one summer's melt)
EXAMPLES
Fast ice. Sea ice which forms and remains fast along the coast
125
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart)
Ice boundary visually or satellite observed.
Ice boundary estimated.
SEA ICE FREE
ICE EDGE
SEA ICE FREE
ICE EDGE
SEA ICE FREE
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
80°W
85°W
90°W
95°W
100°W
105°W
110°W
115°W
120°W
125°W
130°W
135°W
140°E
145°E
150°E
155°E
160°E
165°E
170°E
175°E
180°
175°W
170°W
165°W
160°W
155°W
150°W
145°W
140°W
135°W
70°E
60°E
50°N
45°N
40°N
35°N
55°N
60°N
65°N
70°N
75°N
80°N
85°N
90°N
50°N
55°N
60°N
65°N
70°N
75°N
80°N
85°N
90°N


NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 28 MAY 91
SEA ICE FREE
ICE EDGE
SEA ICE FREE
ICE EDGE
SEA ICE FREE
SEA ICE FREE
EXAMPLES

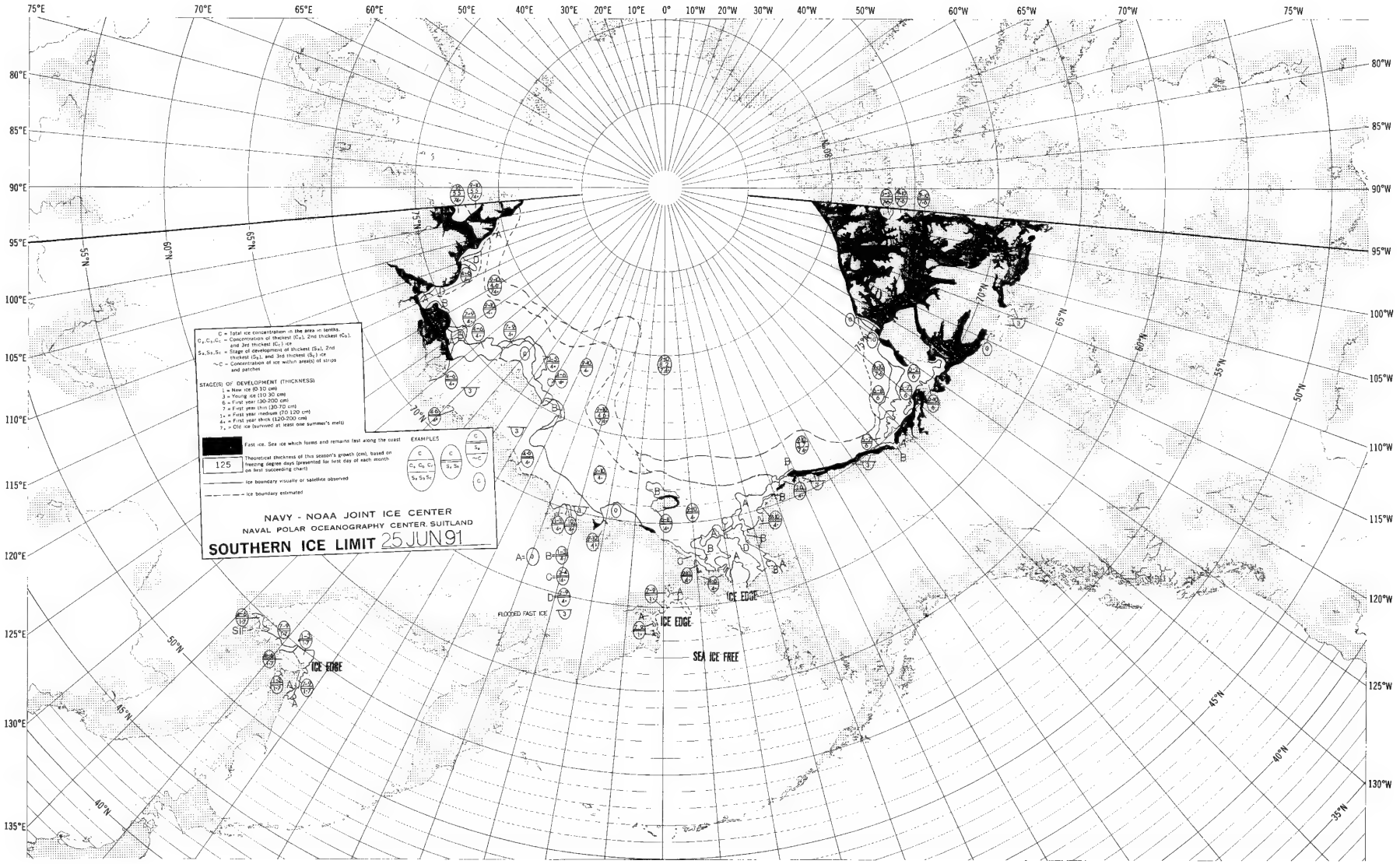

NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 04 JUN 91
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
6 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1 = First year medium (70-120 cm)
4 = First year thick (120-200 cm)
7 = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast.
EXAMPLES
Theoretical thickness of the season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart)
Ice boundary visually or satellite observed
Ice boundary estimated
FLOCKED FAST ICE
SEA ICE FREE
ICE EDGE
SEA ICE FREE
ICE EDGE
SEA ICE FREE
SEA ICE FREE

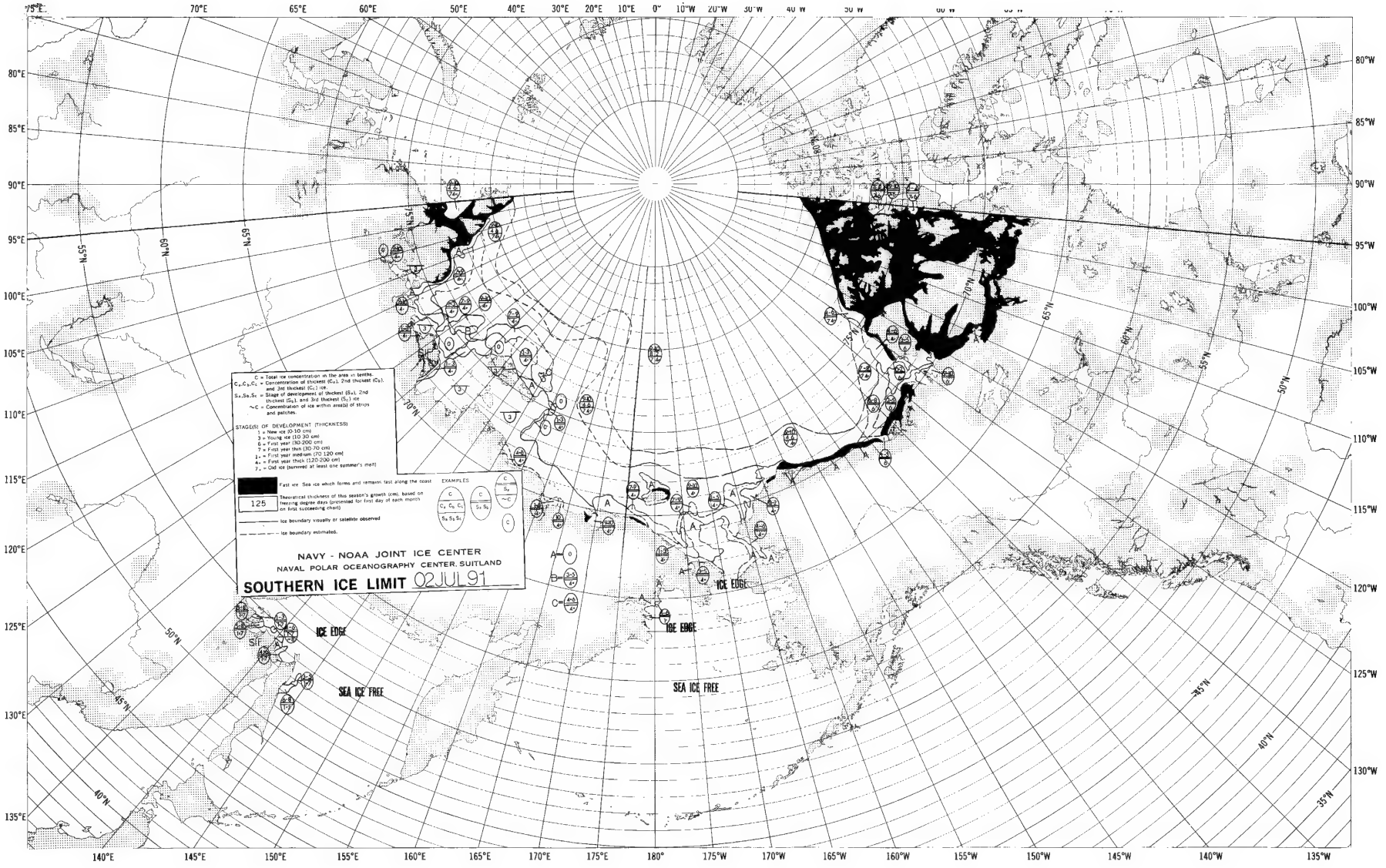


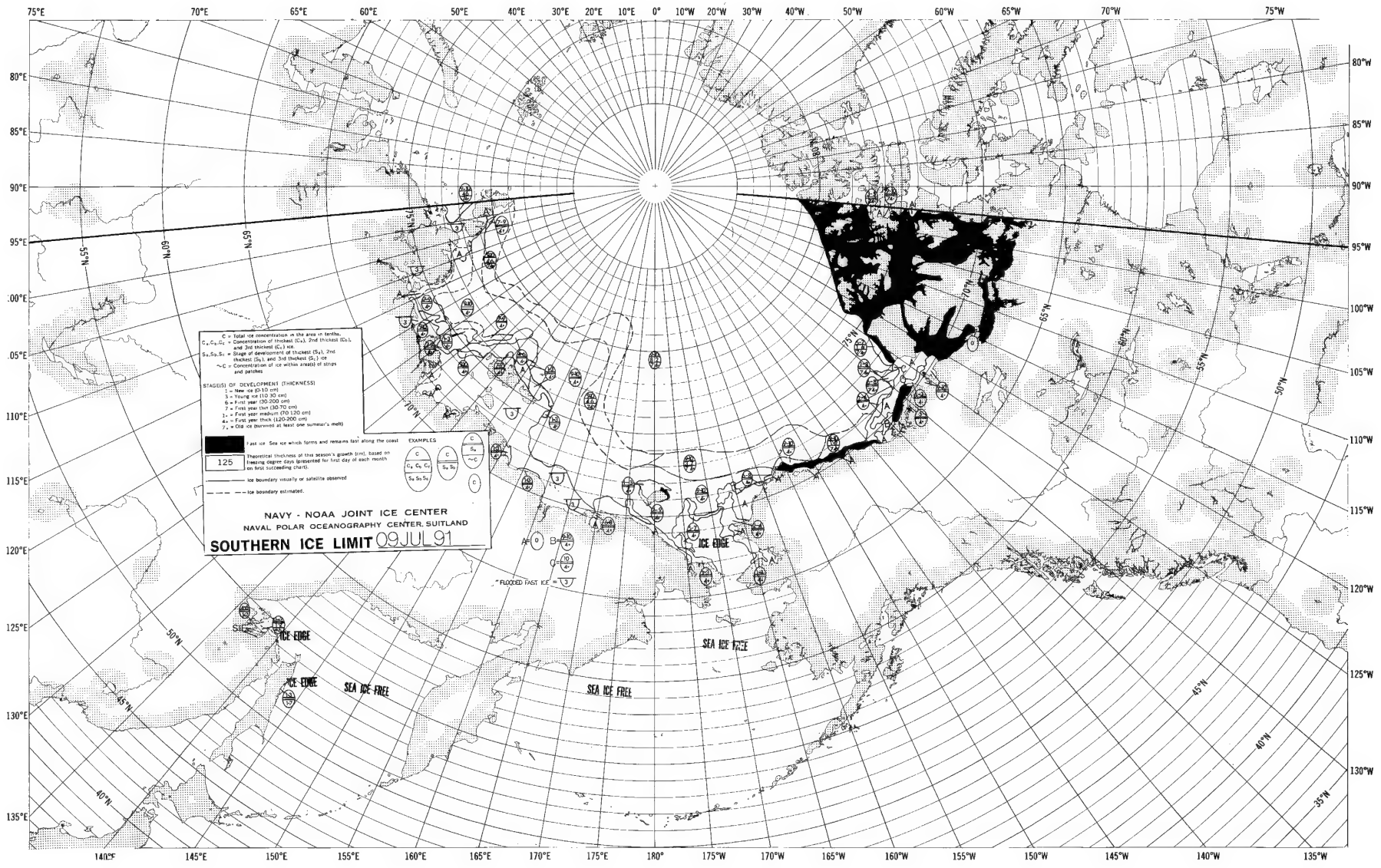
75°E
70°E
65°E
60°E
50°E
40°E
30°E
20°E
10°E
0°
10°W
20°W
30°W
40°W
50°W
60°W
65°W
70°W
75°W
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
80°W
85°W
90°W
95°W
100°W
105°W
110°W
115°W
120°W
125°W
130°W
55°N
60°N
65°N
70°N
75°N
80°N
50°N
45°N
40°N
35°N
C = Total ice concentration in the area in tenths.
C_a, C_b, C_c = Concentration of thickest (C_a), 2nd thickest (C_b), and 3rd thickest (C_c) ice.
S_a, S_b, S_c = Stage of development of thickest (S_a), 2nd thickest (S_b), and 3rd thickest (S_c) ice.
~C = Concentration of ice within area(s) of strips and patches
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
6 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1• = First year medium (70-120 cm)
4• = First year thick (120-200 cm)
7• = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast
125
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart)
Ice boundary visually or satellite observed
Ice boundary estimated
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 11 JUN 91
FLOODED FAST ICE
ICE EDGE
SEA ICE FREE

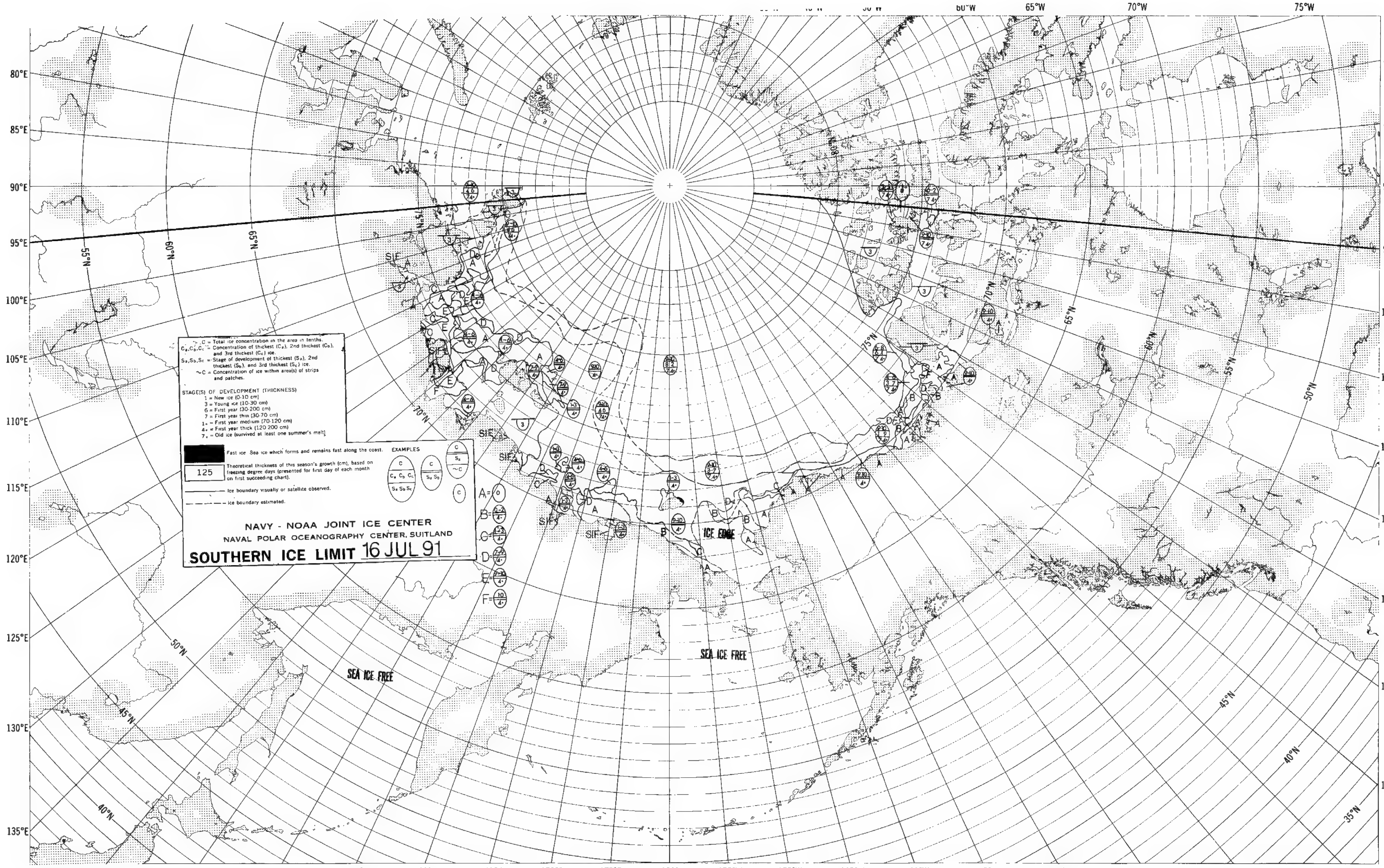


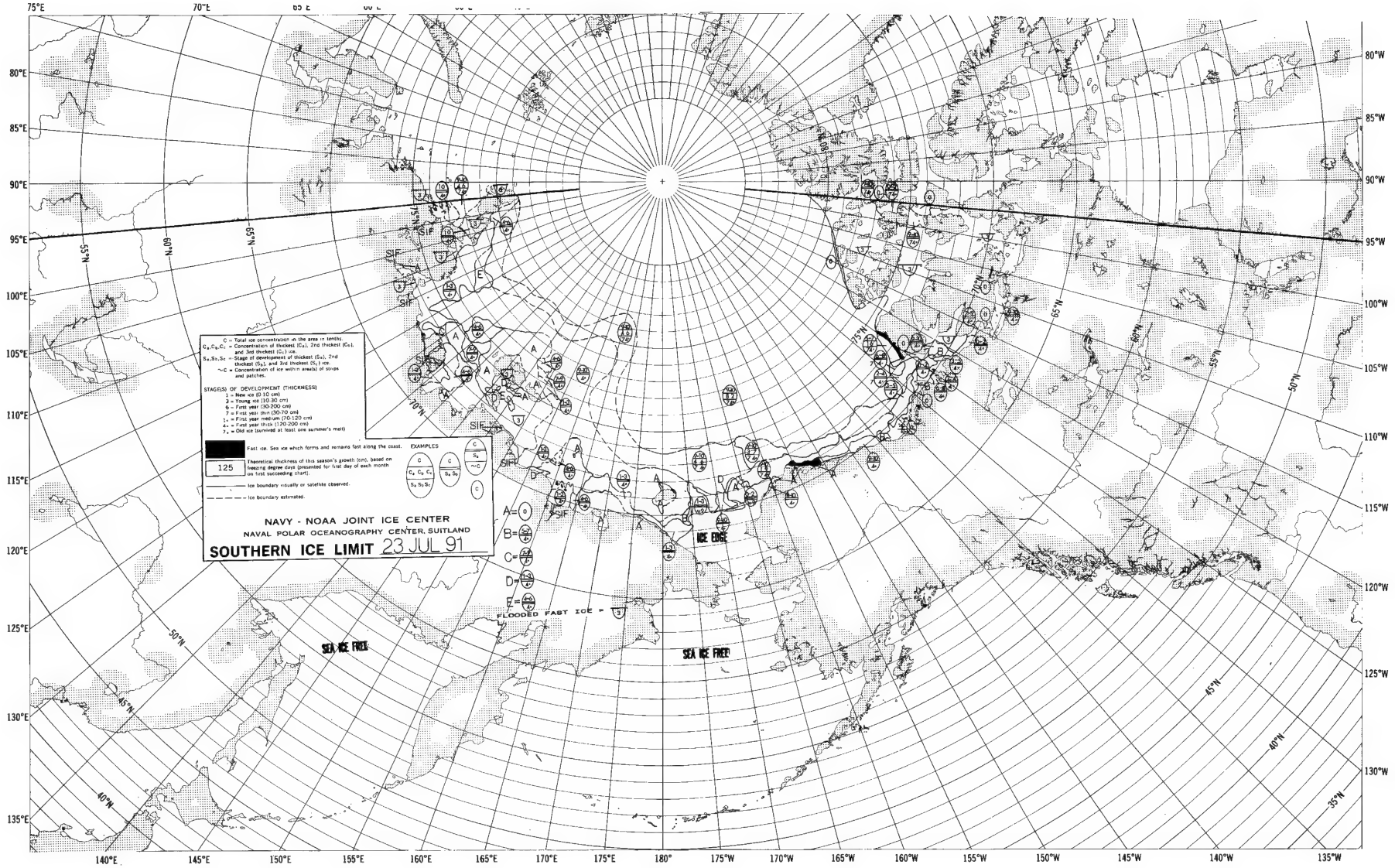
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 18 JUN 91
C = Total ice concentration in the area in tenths
Ca,Cb,Cc = Concentration of thickest (Ca), 2nd thickest (Cb), and 3rd thickest (Cc) ice
Sa,Sb,Sc = Stage of development of thickest (Sa), 2nd thickest (Sb), and 3rd thickest (Sc) ice
~C = Concentration of ice within area(s) of strips and patches.
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
6 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1. = First year medium (70-120 cm)
4. = First year thick (120-200 cm)
7. = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast
125
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart)
Ice boundary visually or satellite observed
Ice boundary estimated
EXAMPLES
FLOODED FAST ICE
ICE EDGE
ICE EDGE
ICE EDGE
SEA ICE FREE
SEA ICE FREE

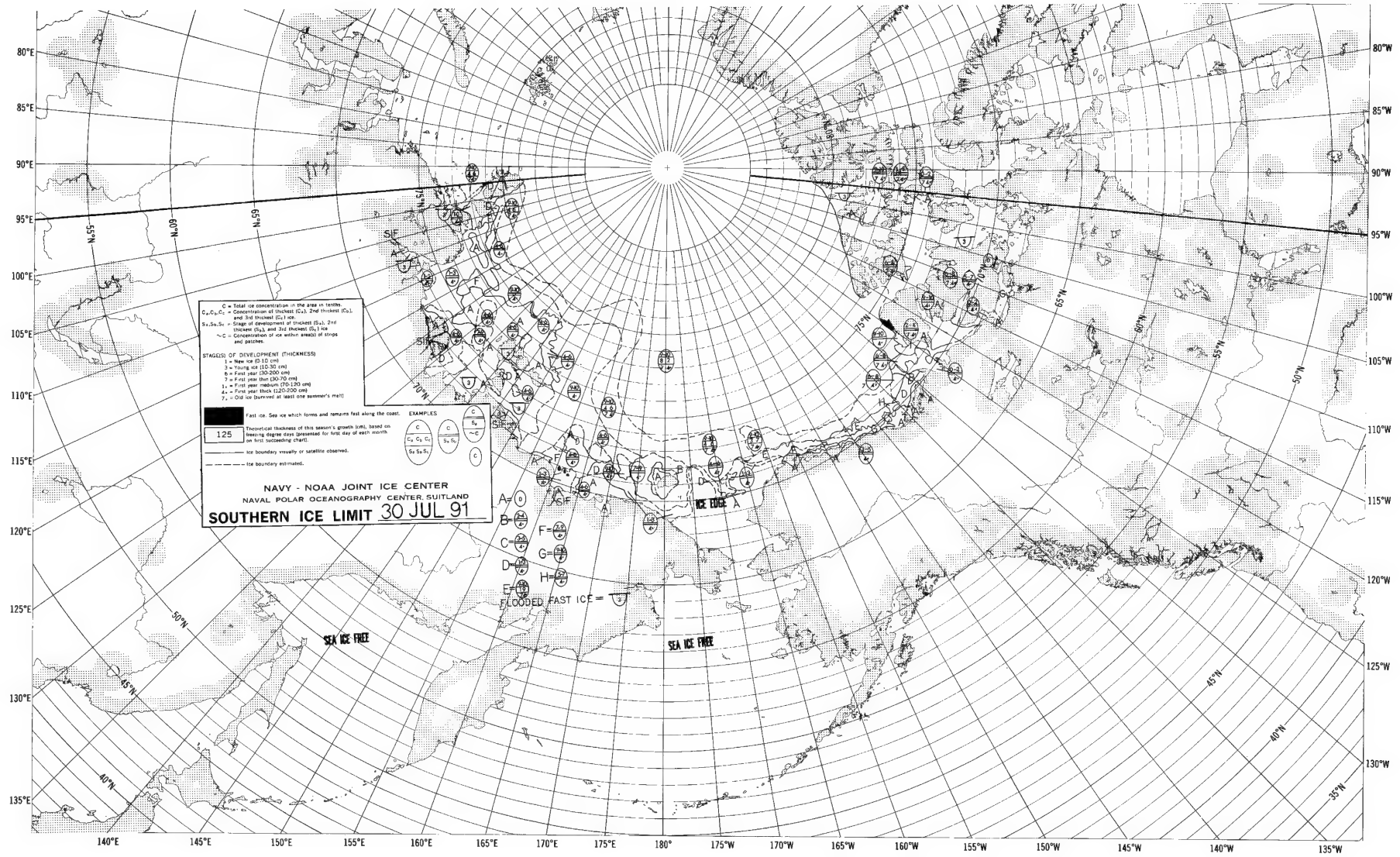

C = Total ice concentration in the area in tenths
$C_A C_B C_C$ = Concentration of thickest (C_A), 2nd thickest (C_B), and 3rd thickest (C_C) ice
$S_A S_B S_C$ = Stage of development of thickest (S_A), 2nd thickest (S_B), and 3rd thickest (S_C) ice
~C = Concentration of ice within area(s) of strips and patches
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
4 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1+ = First year medium (70-120 cm)
4+ = First year thick (120-200 cm)
7+ = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for last day of each month on text succeeding chart)
ice boundary visually or satellite observed
ice boundary estimated
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER SUITLAND
SOUTHERN ICE LIMIT 25 JUN 91
ICE EDGE
FLOODED FAST ICE
ICE EDGE
SEA ICE FREE
ICE EDGE
75°E 70°E 65°E 60°E 50°E 40°E 30°E 20°E 10°E 0° 10°W 20°W 30°W 40°W 50°W 60°W 65°W 70°W 75°W
80°E 85°E 90°E 95°E 100°E 105°E 110°E 115°E 120°E 125°E 130°E 135°E
80°W 85°W 90°W 95°W 100°W 105°W 110°W 115°W 120°W 125°W 130°W
55°N 60°N 65°N 70°N 75°N 80°N
50°N 45°N 40°N 35°N

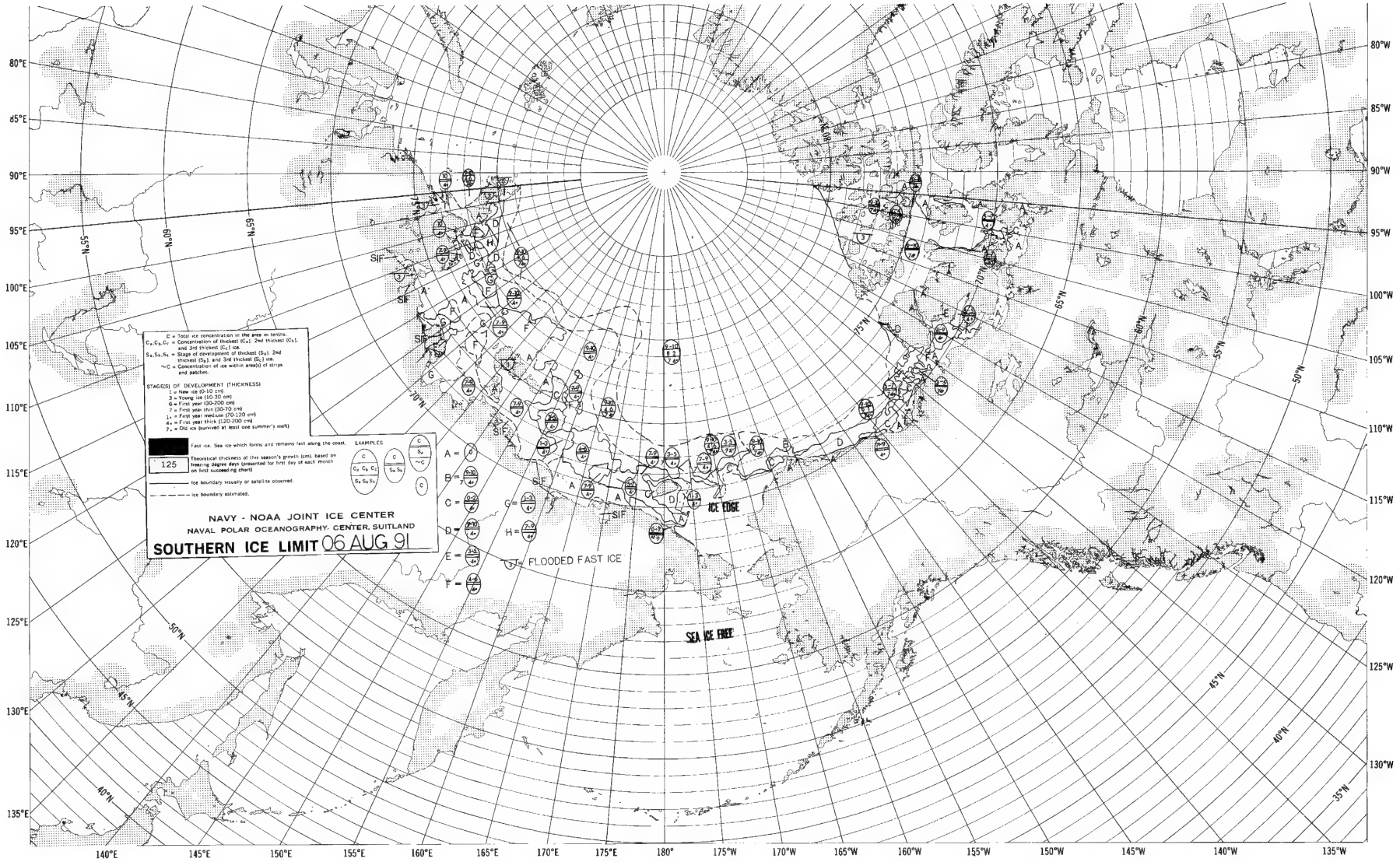

C = Total ice concentration in the area in tenths.
C1,C2,C3 = Concentration of thickest (C1), 2nd thickest (C2), and 3rd thickest (C3) ice.
S1,S2,S3 = Stage of development of thickest (S1), 2nd thickest (S2), and 3rd thickest (S3) ice
~C = Concentration of ice within area(s) of strips and patches.
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
4 = First year (30-200 cm)
7 = First year thin (30-70 cm)
4 = First year medium (70-120 cm)
4 = First year thick (120-200 cm)
7 = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast
125
Theoretical thickness of this season's growth (cm), based on freezing degree days (centesimal for first day of each month on first succeeding chart)
Ice boundary visually or satellite observed
Ice boundary estimated.
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 02JUL91
ICE EDGE
SEA ICE FREE
ICE EDGE
SEA ICE FREE
ICE EDGE
SEA ICE FREE
70°E
65°E
60°E
50°E
40°E
30°E
20°E
10°E
0°
10°W
20°W
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
80°W
85°W
90°W
95°W
100°W
105°W
110°W
115°W
120°W
125°W
130°W
140°E
145°E
150°E
155°E
160°E
165°E
170°E
175°E
180°
175°W
170°W
165°W
160°W
155°W
150°W
145°W
140°W
135°W
N.55
N.09
N.59
75°N
70°N
65°N
60°N
55°N
50°N
45°N
40°N
35°N

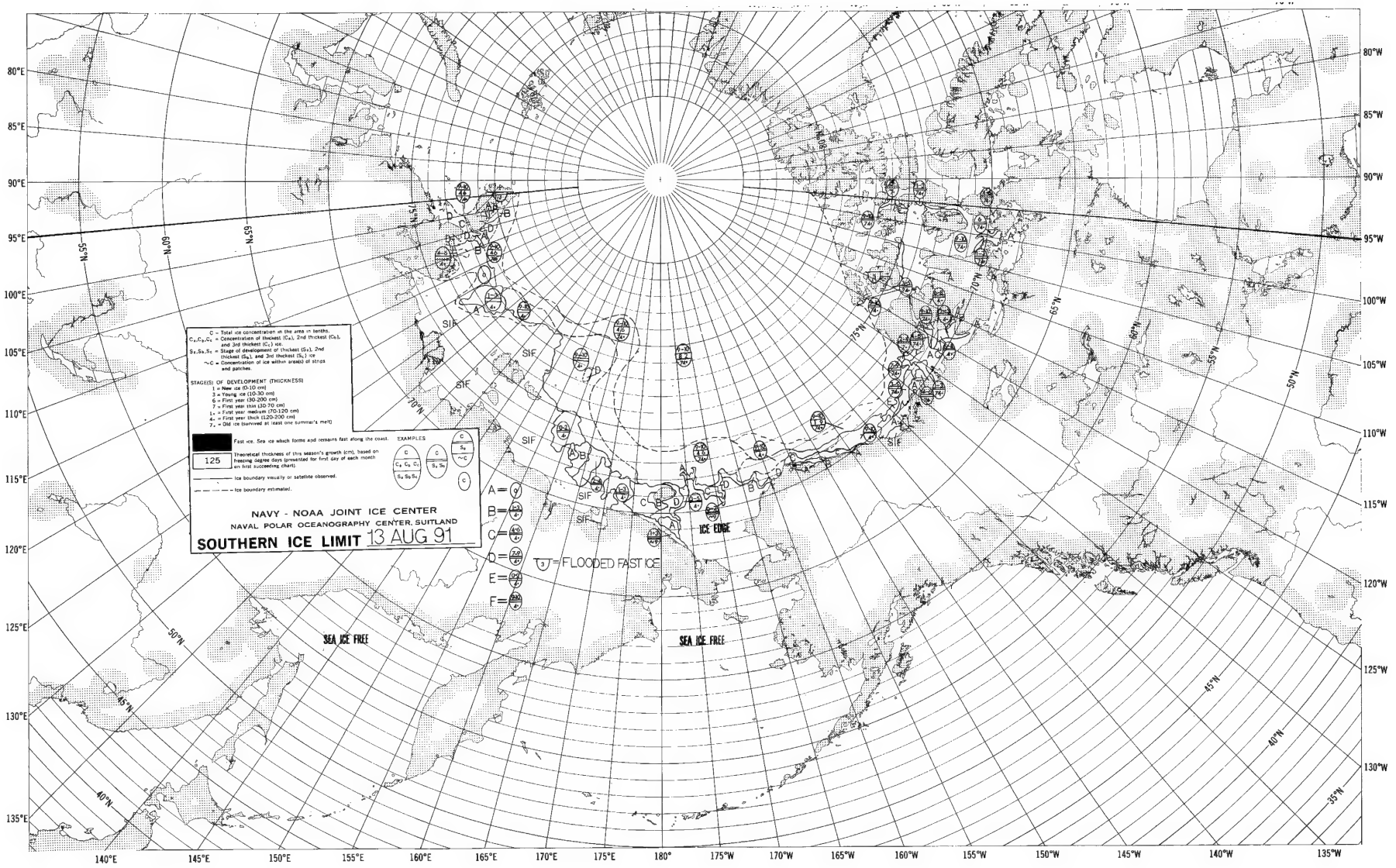

C = Total ice concentration in the area in tenths.
$C_A C_B C_C$ = Concentration of thickest (C_A), 2nd thickest (C_B), and 3rd thickest (C_C) ice.
$S_A S_B S_C$ = Stage of development of thickest (S_A), 2nd thickest (S_B) and 3rd thickest (S_C) ice
~C = Concentration of ice within area(s) of strips and patches
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
4 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1. = First year medium (70-120 cm)
4. = First year thick (120-200 cm)
7. = Old ice (survived at least one summer's melt)
Fast ice Sea ice which forms and remains fast along the coast
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
ice boundary visually or satellite observed
ice boundary estimated.
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 09JUL91
*FLOODED FAST ICE = 3
ICE EDGE
SEA ICE FREE
75°E
70°E
65°E
60°E
50°E
40°E
30°E
20°E
10°E
0°
10°W
20°W
30°W
40°W
50°W
60°W
65°W
70°W
75°W
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
140°E
145°E
150°E
155°E
160°E
165°E
170°E
175°E
180°
175°W
170°W
165°W
160°W
155°W
150°W
145°W
140°W
135°W
80°W
85°W
90°W
95°W
100°W
105°W
110°W
115°W
120°W
125°W
130°W
55°N
60°N
65°N
70°N
75°N
50°N
45°N
40°N
35°N

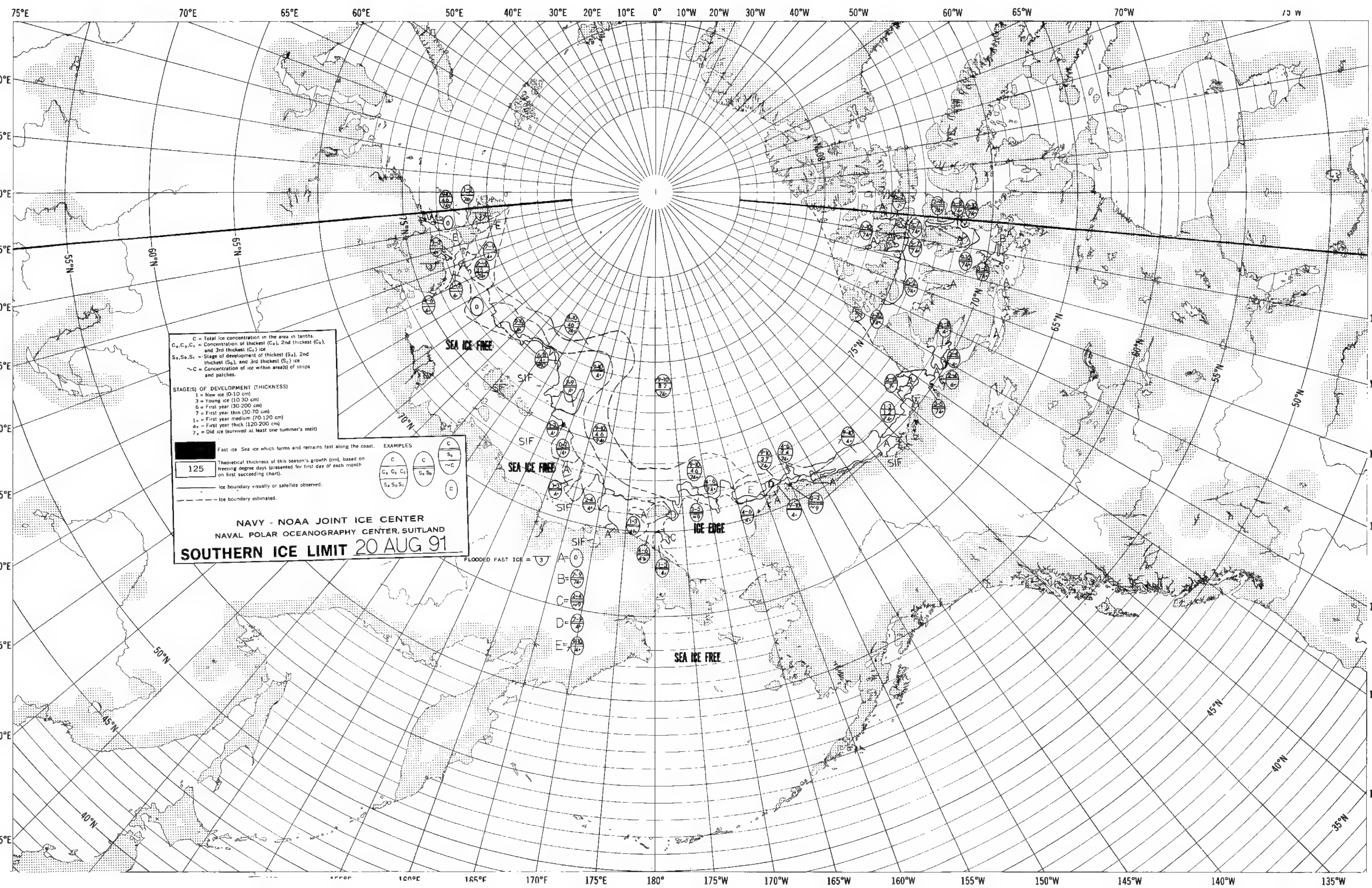

C = Total ice concentration in the area in tenths.
Ca,Cb,Cc = Concentration of thickest (Ca), 2nd thickest (Cb), and 3rd thickest (Cc) ice.
Sa,Sb,Sc = Stage of development of thickest (Sa), 2nd thickest (Sb), and 3rd thickest (Sc) ice.
~C = Concentration of ice within area(s) of strips and patches.
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
6 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1• = First year medium (70-120 cm)
4• = First year thick (120-200 cm)
7• = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast.
125
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 16 JUL 91
SEA ICE FREE
ICE EDGE
SEA ICE FREE
SIF
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
140°E
145°E
150°E
155°E
160°E
165°E
170°E
175°E
180°
175°W
170°W
165°W
160°W
155°W
150°W
145°W
140°W
135°W
130°W
125°W
120°W
115°W
110°W
105°W
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
35°N
40°N
45°N
50°N
55°N
60°N
65°N
70°N
75°N
80°N


C = Total ice concentration in the area in tenths.
$C_A C_B C_C$ = Concentration of thickest (C_A), 2nd thickest (C_B), and 3rd thickest (C_C) ice.
$S_A S_B S_C$ = Stage of development of thickest (S_A), 2nd thickest (S_B), and 3rd thickest (S_C) ice.
~C = Concentration of ice within area(s) of strips and patches.
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
2 = Young ice (10-30 cm)
3 = First year (30-200 cm)
4 = First year thin (30-70 cm)
5 = First year medium (70-120 cm)
6 = First year thick (120-200 cm)
7 = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 23 JUL 91
A=
B=
C=
D=
F=
FLOODED FAST ICE =
ICE EDGE
SEA ICE FREE
SEA ICE FREE
SIF
75°E
70°E
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
140°E
145°E
150°E
155°E
160°E
165°E
170°E
175°E
180°
175°W
170°W
165°W
160°W
155°W
150°W
145°W
140°W
135°W
80°W
85°W
90°W
95°W
100°W
105°W
110°W
115°W
120°W
125°W
130°W
135°W
55°N
60°N
65°N
70°N
75°N
50°N
45°N
40°N
35°N

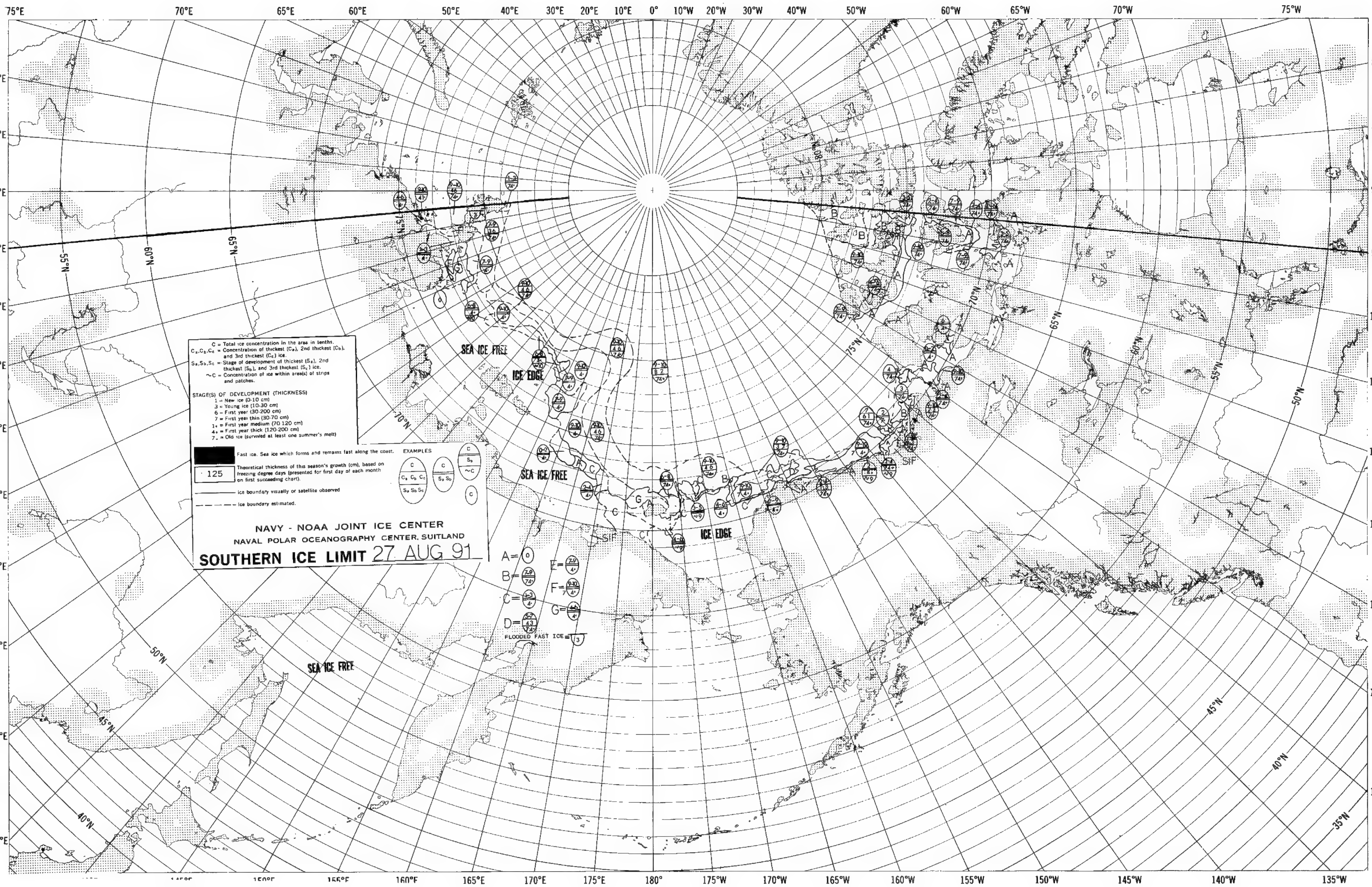

C = Total ice concentration in the area in tenths.
$C_A C_B C_C$ = Concentration of thickest (C_A), 2nd thickest (C_B), and 3rd thickest (C_C) ice.
$S_A S_B S_C$ = Stage of development of thickest (S_A), 2nd thickest (S_B), and 3rd thickest (S_C) ice
~C = Concentration of ice within area(s) of strips and patches.
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
5 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1. = First year medium (70-120 cm)
4. = First year thick (120-200 cm)
7. = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast.
125
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER SUITLAND
SOUTHERN ICE LIMIT 30 JUL 91
A=
B=
C=
D=
E=
F=
G=
H=
FLOODED FAST ICE =
ICE EDGE
SEA ICE FREE
SEA ICE FREE
SIF
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
80°W
85°W
90°W
95°W
100°W
105°W
110°W
115°W
120°W
125°W
130°W
135°W
140°E
145°E
150°E
155°E
160°E
165°E
170°E
175°E
180°
175°W
170°W
165°W
160°W
155°W
150°W
145°W
140°W
135°W
N.55
N.09
N.59
N.59
75°N
70°N
65°W
60°W
55°W
50°W
50°N
45°N
40°N
35°N

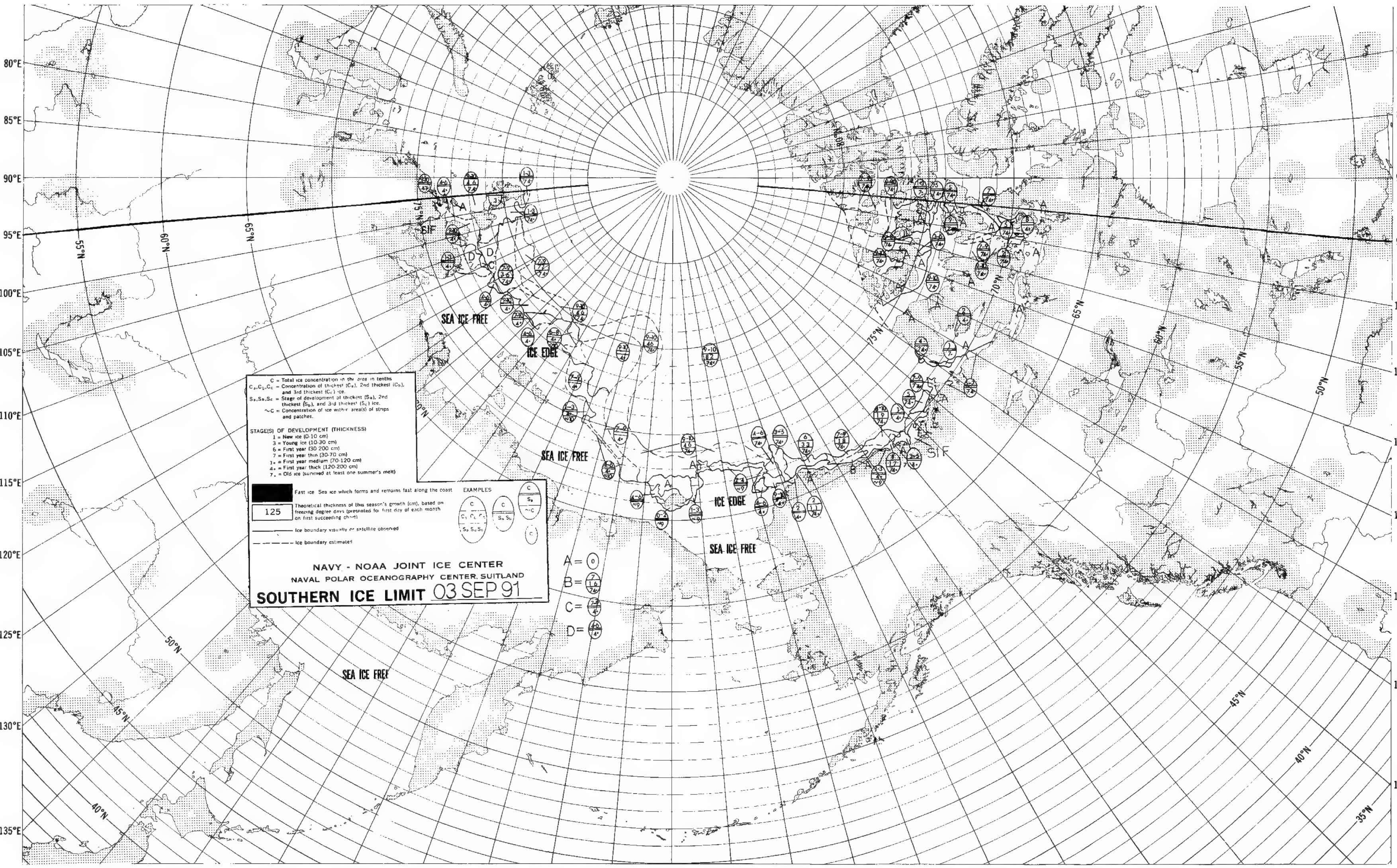

C = Total ice concentration in the area in tenths.
$C_1 C_2 C_3$ = Concentration of thickest (C_1), 2nd thickest (C_2), and 3rd thickest (C_3) ice.
$S_1 S_2 S_3$ = Stage of development of thickest (S_1), 2nd thickest (S_2), and 3rd thickest (S_3) ice.
~C = Concentration of ice within area(s) of strips and patches.
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
6 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1. = First year medium (70-120 cm)
4. = First year thick (120-200 cm)
7. = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart)
Ice boundary visually or satellite observed.
Ice boundary estimated.
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 06 AUG 91
A =
B =
C =
D =
E =
F =
G =
H =
FLOODED FAST ICE
ICE EDGE
SEA ICE FREE
SIF
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
140°E
145°E
150°E
155°E
160°E
165°E
170°E
175°E
180°
175°W
170°W
165°W
160°W
155°W
150°W
145°W
140°W
135°W
80°W
85°W
90°W
95°W
100°W
105°W
110°W
115°W
120°W
125°W
130°W
N.55
N.09
N.59
70°N
65°N
60°N
55°N
50°N
45°N
40°N
35°N

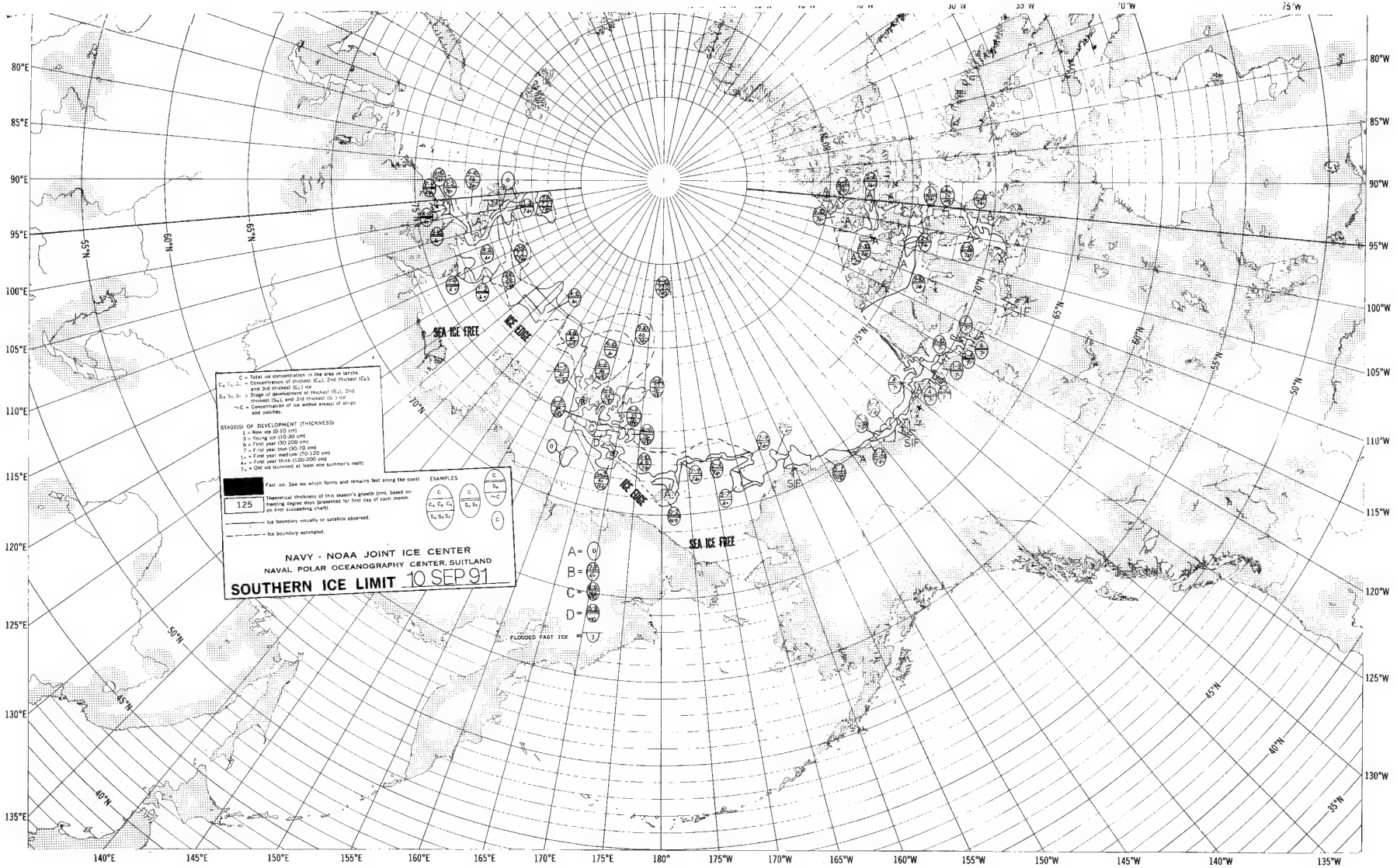

C = Total ice concentration on the area in tenths.
$C_A C_B C_C$ = Concentration of thickest (C_A), 2nd thickest (C_B), and 3rd thickest (C_C) ice.
$S_A S_B S_C$ = Stage of development of thickest (S_A), 2nd thickest (S_B), and 3rd thickest (S_C) ice
~C = Concentration of ice within area(s) of strips and patches.
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
2 = Young ice (10-30 cm)
6 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1. = First year medium (70-120 cm)
4. = First year thick (120-200 cm)
7. = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast.
125
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 13 AUG 91
A=
B=
C=
D=
E=
F=
FLOODED FAST ICE
ICE EDGE
SEA ICE FREE
SEA ICE FREE
SIF
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
80°W
85°W
90°W
95°W
100°W
105°W
110°W
115°W
120°W
125°W
130°W
135°W
140°E
145°E
150°E
155°E
160°E
165°E
170°E
175°E
180°
175°W
170°W
165°W
160°W
155°W
150°W
145°W
140°W
135°W
N.55
N.09
N.59
75°N
70°N
65°N
60°N
55°N
50°N
45°N
40°N
35°N

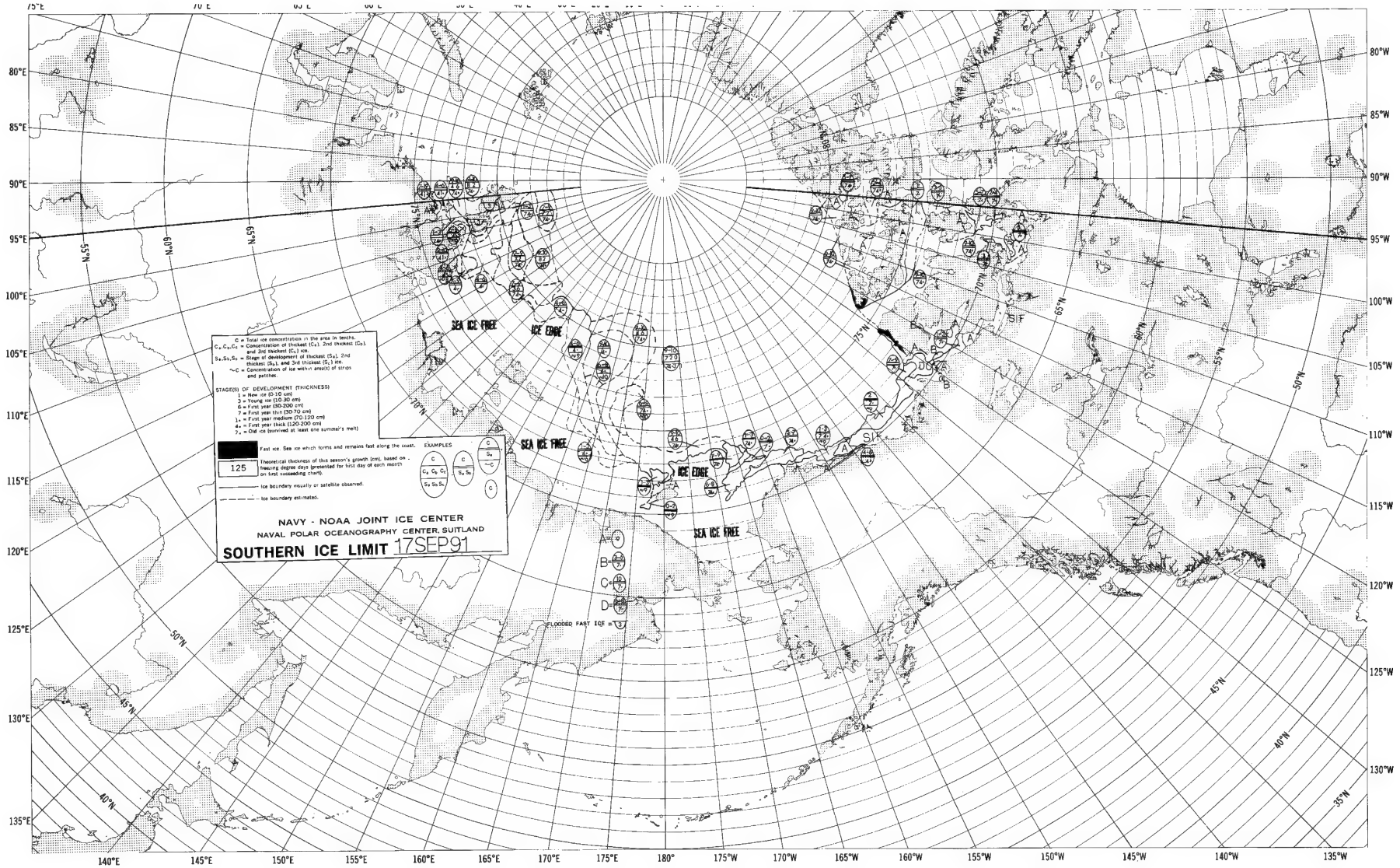


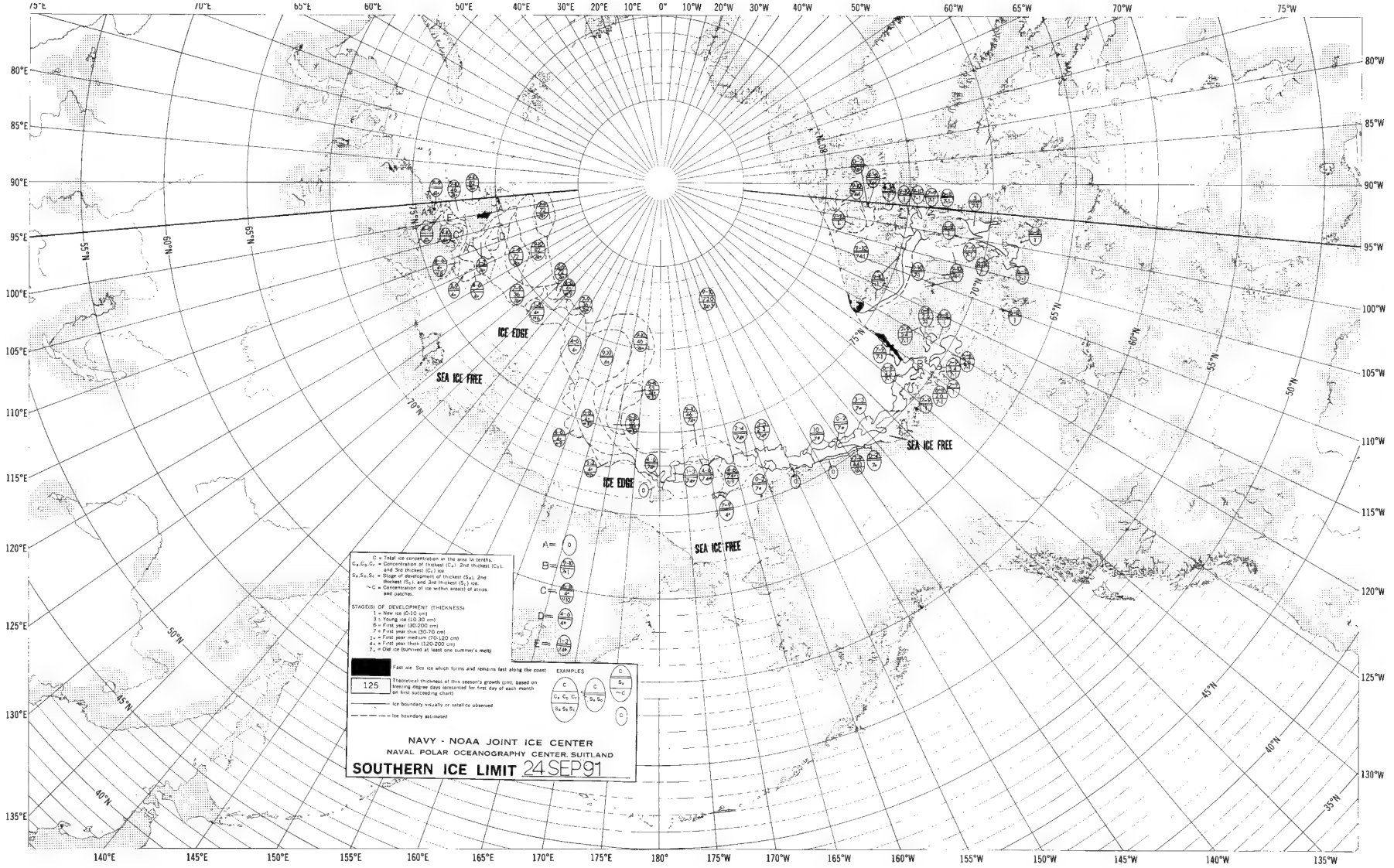
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 20 AUG 91
C = Total ice concentration in the area in tenths.
Ca,Cb,Cc = Concentration of thickest (Ca), 2nd thickest (Cb), and 3rd thickest (Cc) ice
Sa,Sb,Sc = Stage of development of thickest (Sa), 2nd thickest (Sb), and 3rd thickest (Sc) ice
~C = Concentration of ice within area(s) of strips and patches.
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
6 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1• = First year medium (70-120 cm)
4• = First year thick (120-200 cm)
7• = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast.
125
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
EXAMPLES
FLOODED FAST ICE =
SEA ICE FREE
ICE EDGE
SIF

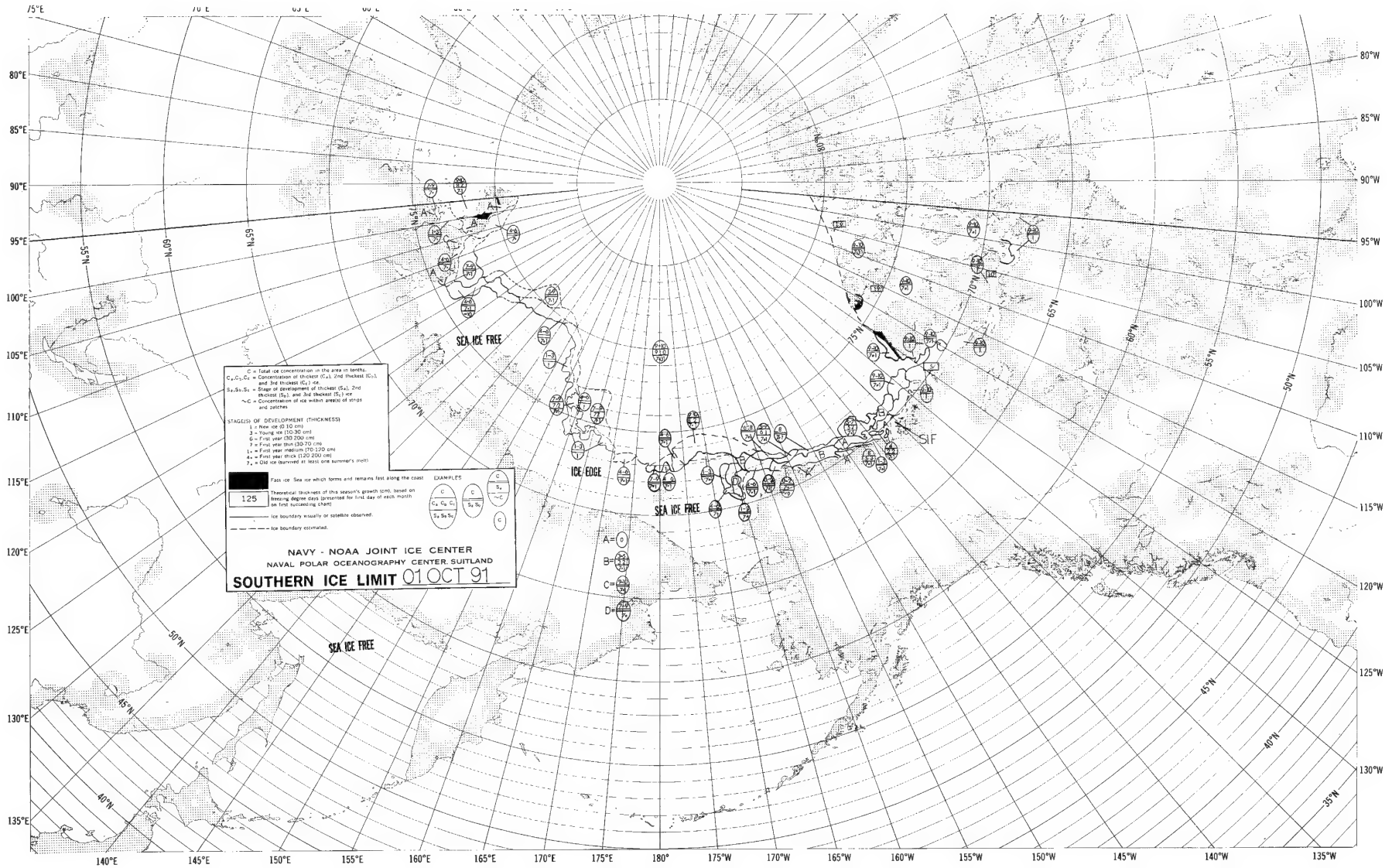

C = Total ice concentration in the area in tenths.
Ca,Cb,Cc = Concentration of thickest (Ca), 2nd thickest (Cb), and 3rd thickest (Cc) ice.
Sa,Sb,Sc = Stage of development of thickest (Sa), 2nd thickest (Sb), and 3rd thickest (Sc) ice.
~C = Concentration of ice within area(s) of strips and patches.
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
6 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1• = First year medium (70-120 cm)
4• = First year thick (120-200 cm)
7• = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast.
125
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed
Ice boundary estimated.
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 27 AUG 91
SEA ICE FREE
ICE EDGE
SEA ICE FREE
ICE EDGE
SEA ICE FREE
FLOODED FAST ICE
SIF

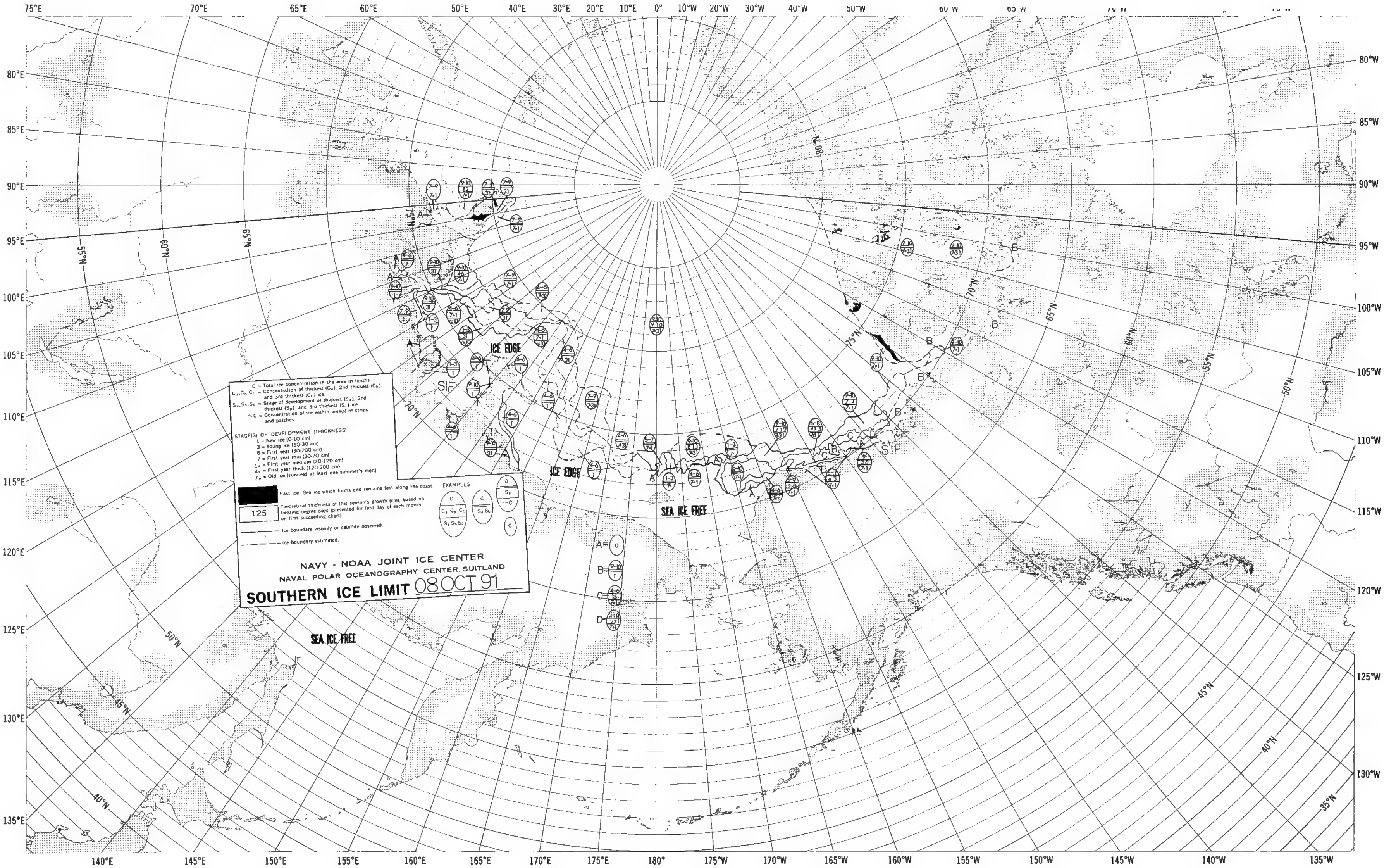

C = Total ice concentration in the area in tenths
Ca,Cb,Cc = Concentration of thickest (Ca), 2nd thickest (Cb), and 3rd thickest (Cc) ice.
Sa,Sb,Sc = Stage of development of thickest (Sa), 2nd thickest (Sb), and 3rd thickest (Sc) ice.
~C = Concentration of ice within area(s) of strips and patches.
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
6 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1• = First year medium (70-120 cm)
4• = First year thick (120-200 cm)
7• = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast
125
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart)
Ice boundary visually or satellite observed
Ice boundary estimated
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 03 SEP 91
SEA ICE FREE
ICE EDGE
SEA ICE FREE
ICE EDGE
SEA ICE FREE
SEA ICE FREE
A=
B=
C=
D=
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
140°E
145°E
150°E
155°E
160°E
165°E
170°E
175°E
180°
175°W
170°W
165°W
160°W
155°W
150°W
145°W
140°W
135°W
130°W
125°W
120°W
115°W
110°W
105°W
100°W
95°W
90°W
85°W
80°W
55°N
60°N
65°N
70°N
75°N
50°N
45°N
40°N
35°N

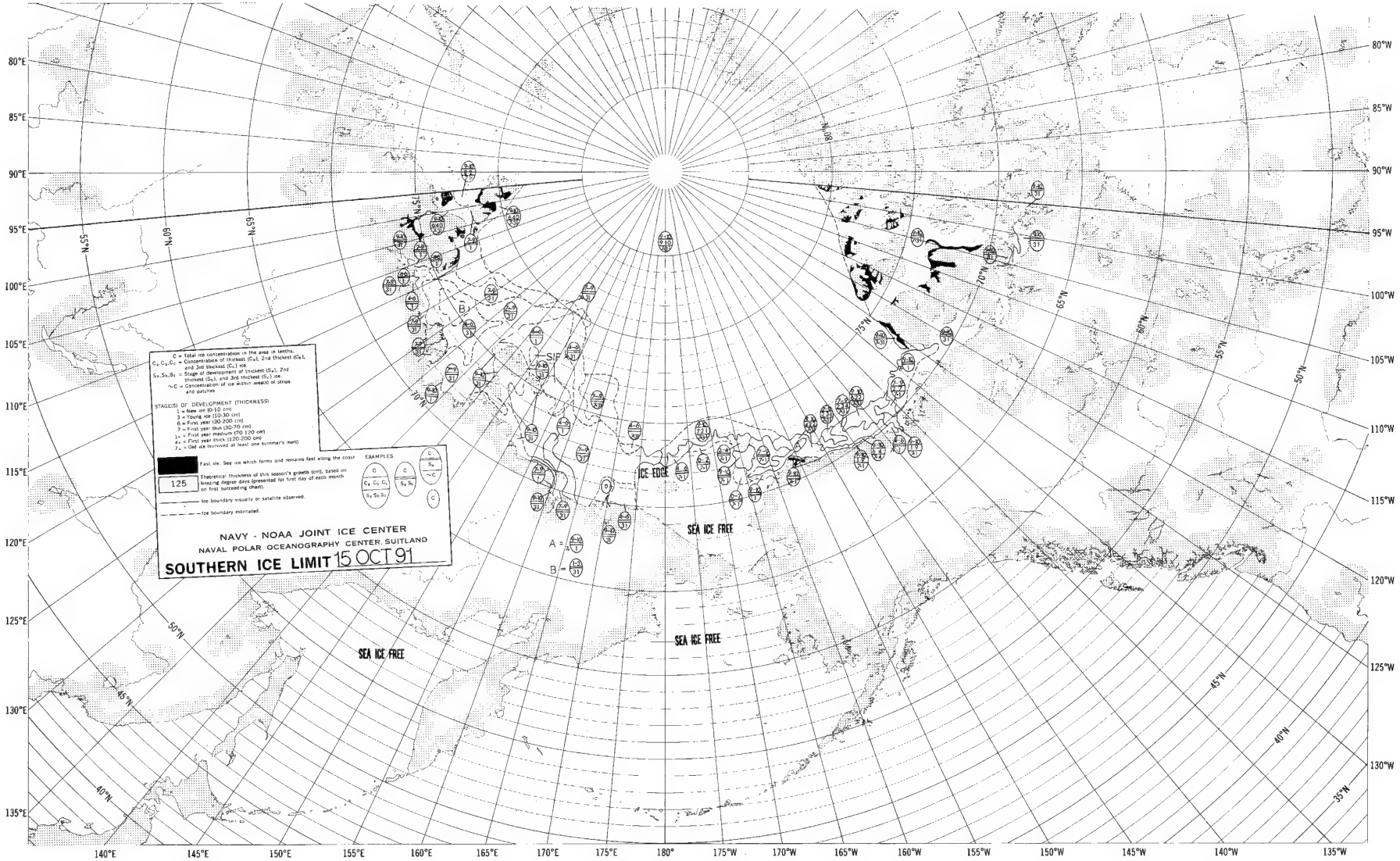

C = Total ice concentration in the area in tenths.
Cx (Cy, Cz) = Concentration of thickest (Cx), 2nd thickest (Cy), and 3rd thickest (Cz) ice
Sx Sy Sz = Stage of development of thickest (Sx), 2nd thickest (Sy), and 3rd thickest (Sz) ice
~C = Concentration of ice within areas of strips and patches.
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
2 = Young ice (10-30 cm)
3 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1. = First year medium (70-120 cm)
4. = First year thick (120-200 cm)
7. = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast
125
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 10 SEP 91
A=
B=
C=
D=
FLOODED FAST ICE
SEA ICE FREE
ICE EDGE
SIF
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
140°E
145°E
150°E
155°E
160°E
165°E
170°E
175°E
180°
175°W
170°W
165°W
160°W
155°W
150°W
145°W
140°W
135°W
80°W
85°W
90°W
95°W
100°W
105°W
110°W
115°W
120°W
125°W
130°W
75°W
70°W
65°W
60°W
55°W
50°W
45°N
40°N
35°N
55°N
60°N
59°N

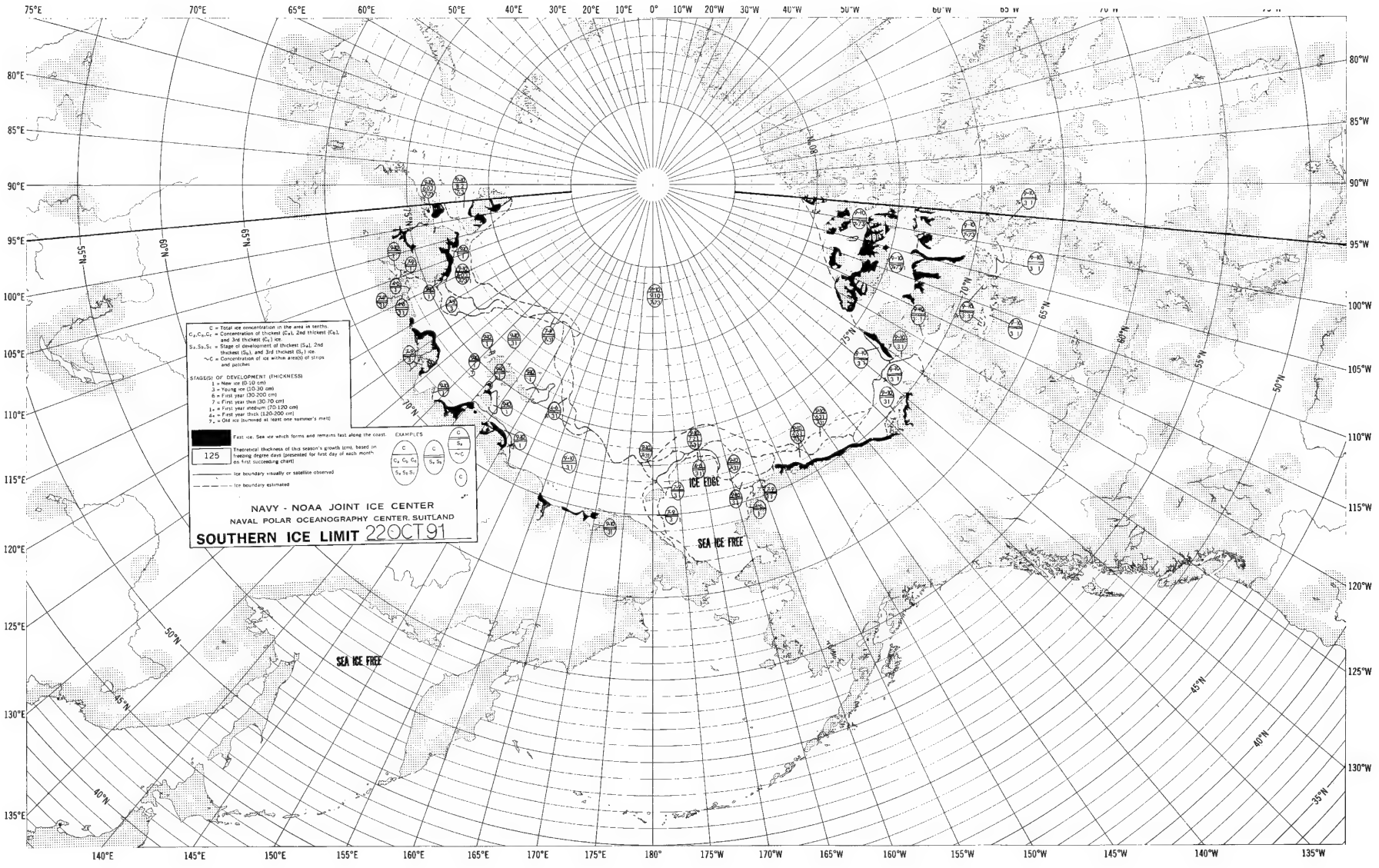

C = Total ice concentration in the area in tenths.
$C_1 C_2 C_3$ = Concentration of thickest (C_A), 2nd thickest (C_B), and 3rd thickest (C_C) ice.
$S_A S_B S_C$ = Stage of development of thickest (S_A), 2nd thickest (S_B), and 3rd thickest (S_C) ice.
~C = Concentration of ice within area(s) of strips and patches.
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
2 = Young ice (10-30 cm)
6 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1_4 = First year medium (70-120 cm)
4_1 = First year thick (120-200 cm)
7 = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast.
125
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 17SEP91
SEA ICE FREE
ICE EDGE
SEA ICE FREE
ICE EDGE
SEA ICE FREE
SIF
SIF
A=
B=
C=
D=
REFLOODED FAST ICE =
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
80°W
85°W
90°W
95°W
100°W
105°W
110°W
115°W
120°W
125°W
130°W
135°W
55°N
60°N
65°N
70°N
75°N
50°N
45°N
40°N
35°N
140°E
145°E
150°E
155°E
160°E
165°E
170°E
175°E
180°
175°W
170°W
165°W
160°W
155°W
150°W
145°W
140°W
135°W

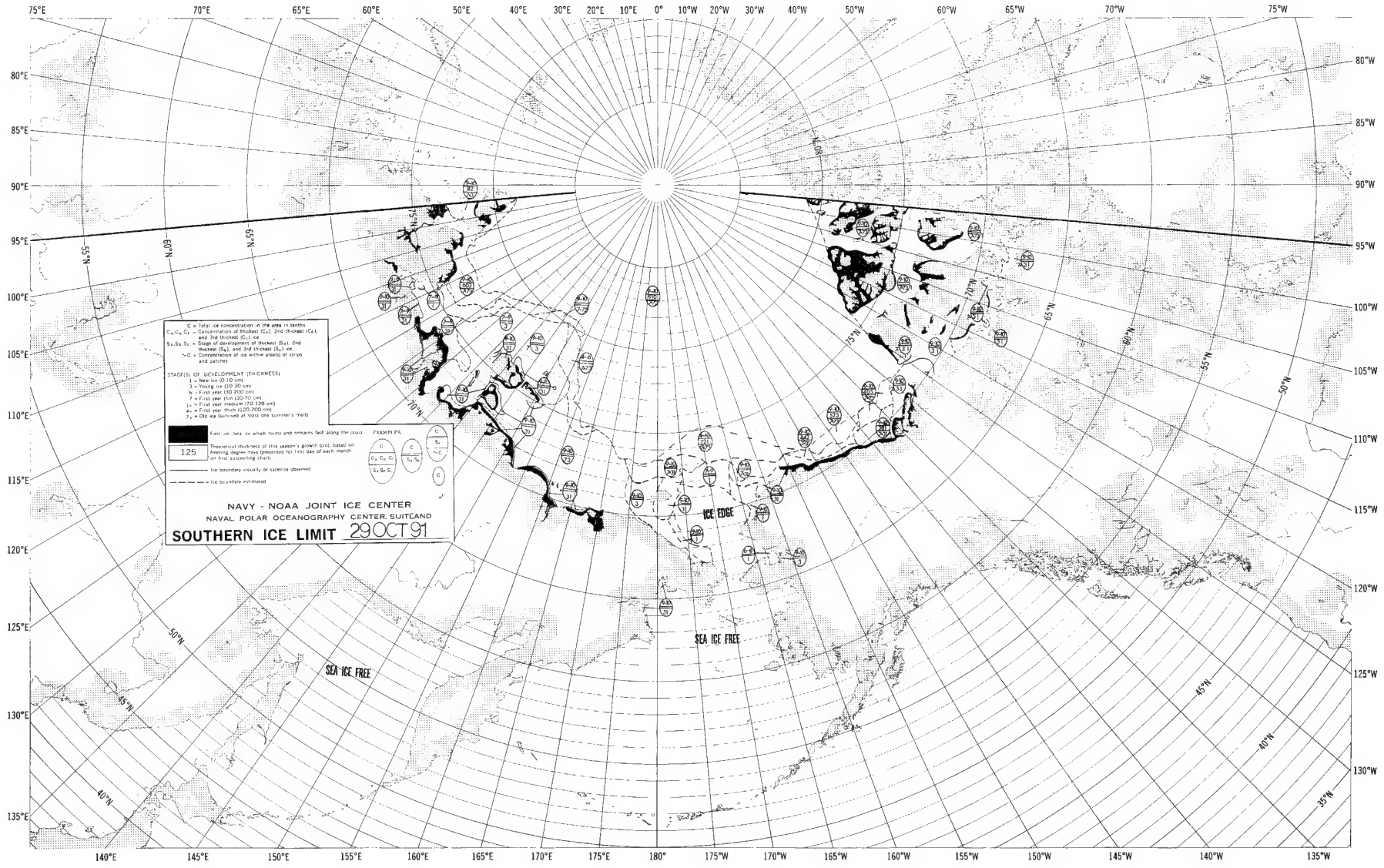

ICE EDGE
SEA ICE FREE
ICE EDGE
SEA ICE FREE
SEA ICE FREE
C = Total ice concentration in the area in tenths.
$C_t C_2 C_3$ = Concentration of thickest (C_t) 2nd thickest (C_2), and 3rd thickest (C_3) ice
$S_t S_2 S_3$ = Stage of development of thickest (S_t), 2nd thickest (S_2), and 3rd thickest (S_3) ice.
~C = Concentration of ice within area(s) of strips and patches.
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
6 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1_x = First year medium (70-120 cm)
4_x = First year thick (120-200 cm)
7_x = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast
125
Theoretical thickness of this season's growth (cm), based on freezing degree days forecasted for first day of each month on first succeeding chart)
Ice boundary visually or satellite observed
Ice boundary estimated
EXAMPLES
A=
B=
C=
D=
E=
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 24 SEP 91

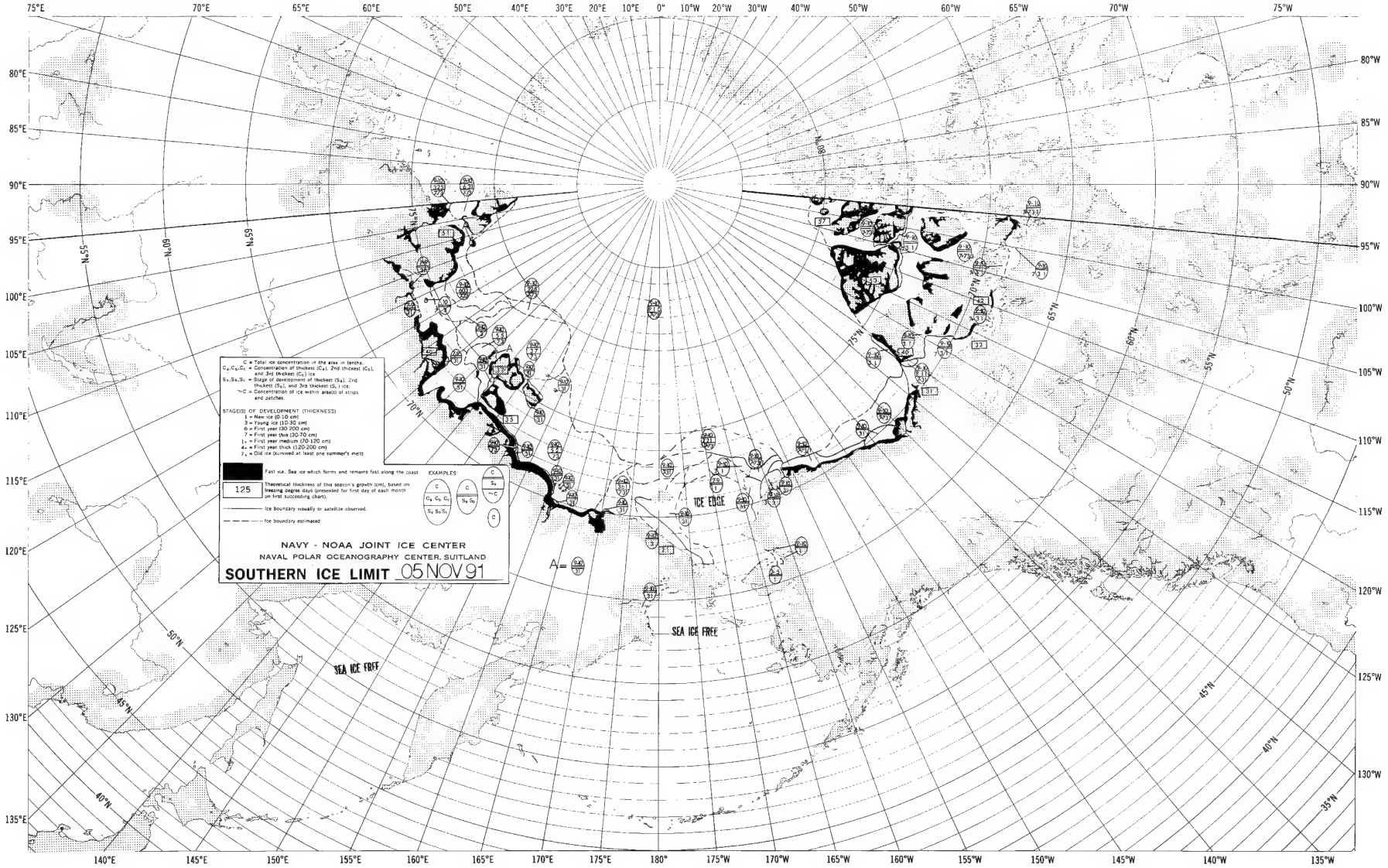

C = Total ice concentration in the area in tenths.
$C_A C_S C_C$ = Concentration of thickest (C_A), 2nd thickest (C_S), and 3rd thickest (C_C) ice.
$S_A S_S S_C$ = Stage of development of thickest (S_A), 2nd thickest (S_S), and 3rd thickest (S_C) ice
~C = Concentration of ice within area(s) of strips and patches
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
5 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1. = First year medium (70-120 cm)
4. = First year thick (120-200 cm)
7. = Old ice (survived at least one summer's melt)
Fast ice Sea ice which forms and remains fast along the coast
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart)
Ice boundary visually or satellite observed.
Ice boundary estimated.
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 01 OCT 91
SEA ICE FREE
ICE EDGE
SIF
A=
B=
C=
D=
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
140°E
145°E
150°E
155°E
160°E
165°E
170°E
175°E
180°
175°W
170°W
165°W
160°W
155°W
150°W
145°W
140°W
135°W
80°W
85°W
90°W
95°W
100°W
105°W
110°W
115°W
120°W
125°W
130°W
55°N
60°N
65°N
70°N
50°N
45°N
40°N
35°N

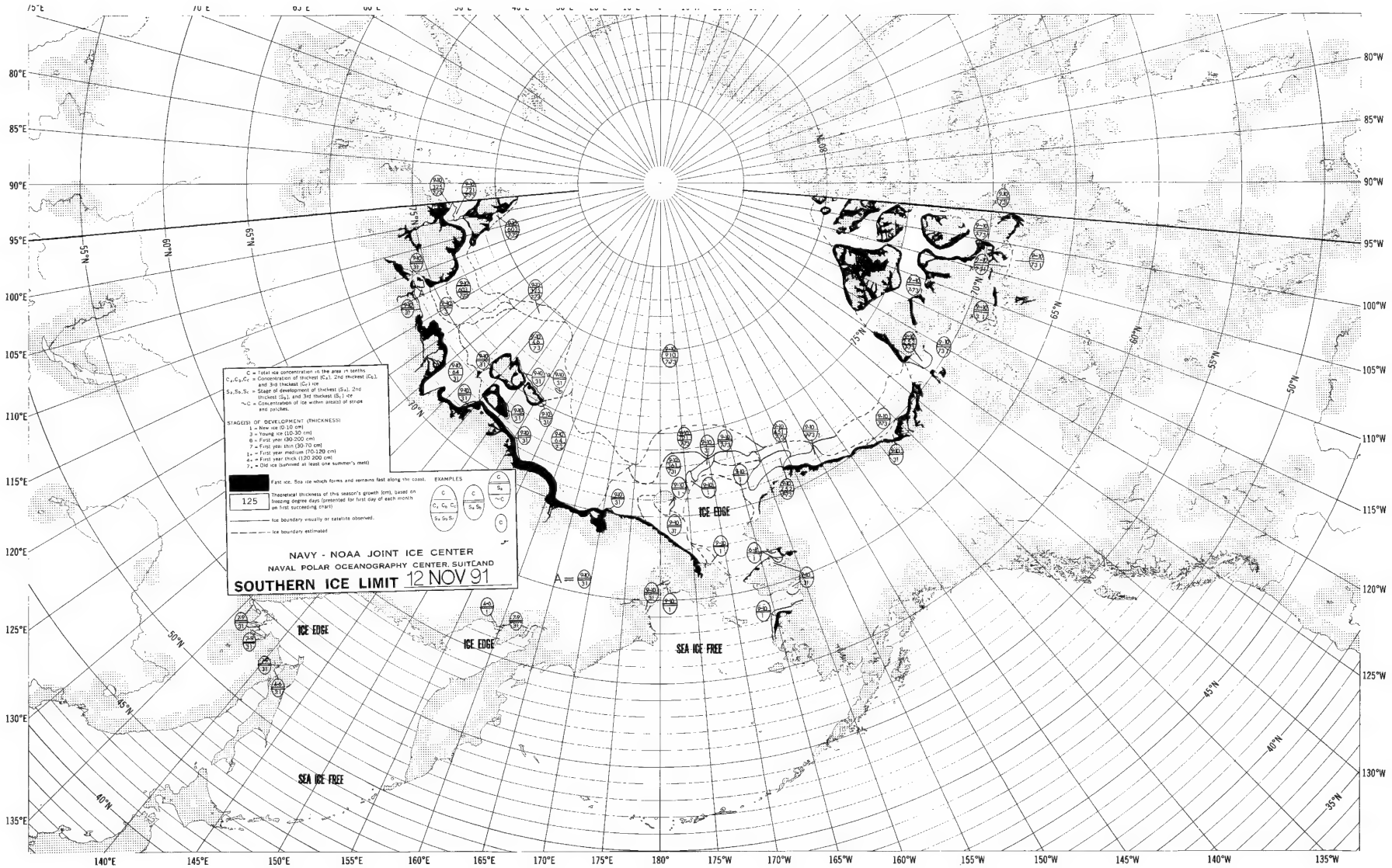

C = Total ice concentration in the area in tenths
C_a, C_b, C_c = Concentration of thickest (C_a), 2nd thickest (C_b), and 3rd thickest (C_c) ice.
S_a, S_b, S_c = Stage of development of thickest (S_a), 2nd thickest (S_b), and 3rd thickest (S_c) ice
~C = Concentration of ice within area(s) of strips and patches
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
6 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1• = First year medium (70-120 cm)
4• = First year thick (120-200 cm)
7• = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast.
125
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart)
Ice boundary visually or satellite observed.
Ice boundary estimated.
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 08OCT91
ICE EDGE
ICE EDGE
SEA ICE FREE
SEA ICE FREE
SIF
SIF
75°N
70°N
65°N
60°N
55°N
50°N
45°N
40°N
35°N
80°N

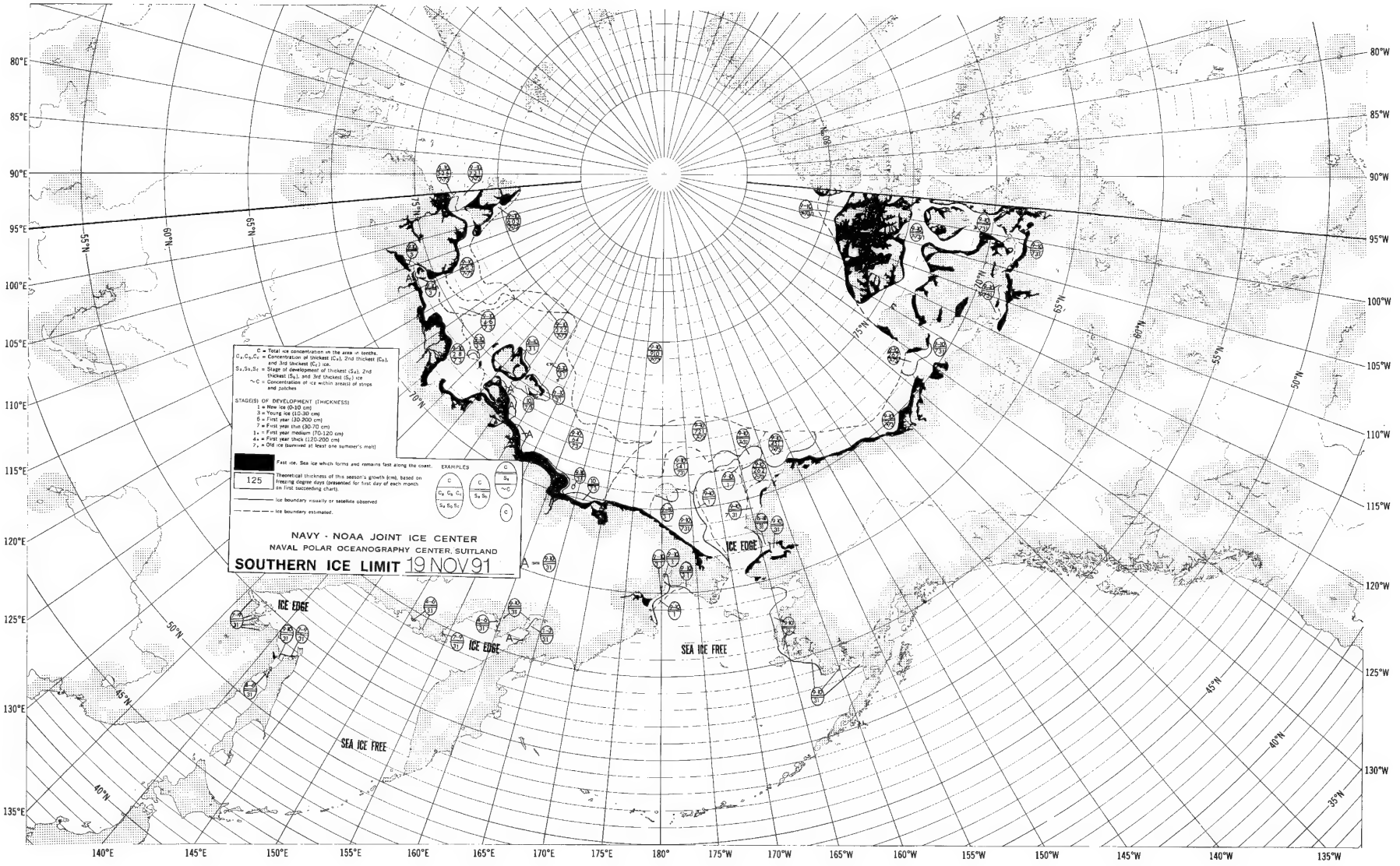

C = Total ice concentration in the area in tenths.
C_a, C_b, C_c = Concentration of thickest (C_a), 2nd thickest (C_b), and 3rd thickest (C_c) ice.
S_a, S_b, S_c = Stage of development of thickest (S_a), 2nd thickest (S_b), and 3rd thickest (S_c) ice.
~C = Concentration of ice within area(s) of strips and patches
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
6 = First year thin (30-70 cm)
7 = First year thin (70-120 cm)
1$_x$ = First year medium (70-120 cm)
4$_x$ = First year thick (120-200 cm)
7$_x$ = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast
125
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 15 OCT 91
ICE EDGE
SEA ICE FREE
SEA ICE FREE
SEA ICE FREE
SIP
A =
B =
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
140°E
145°E
150°E
155°E
160°E
165°E
170°E
175°E
180°
175°W
170°W
165°W
160°W
155°W
150°W
145°W
140°W
135°W
80°W
85°W
90°W
95°W
100°W
105°W
110°W
115°W
120°W
125°W
130°W
55°N
60°N
65°N
70°N
75°N
80°N
50°N
45°N
40°N
35°N

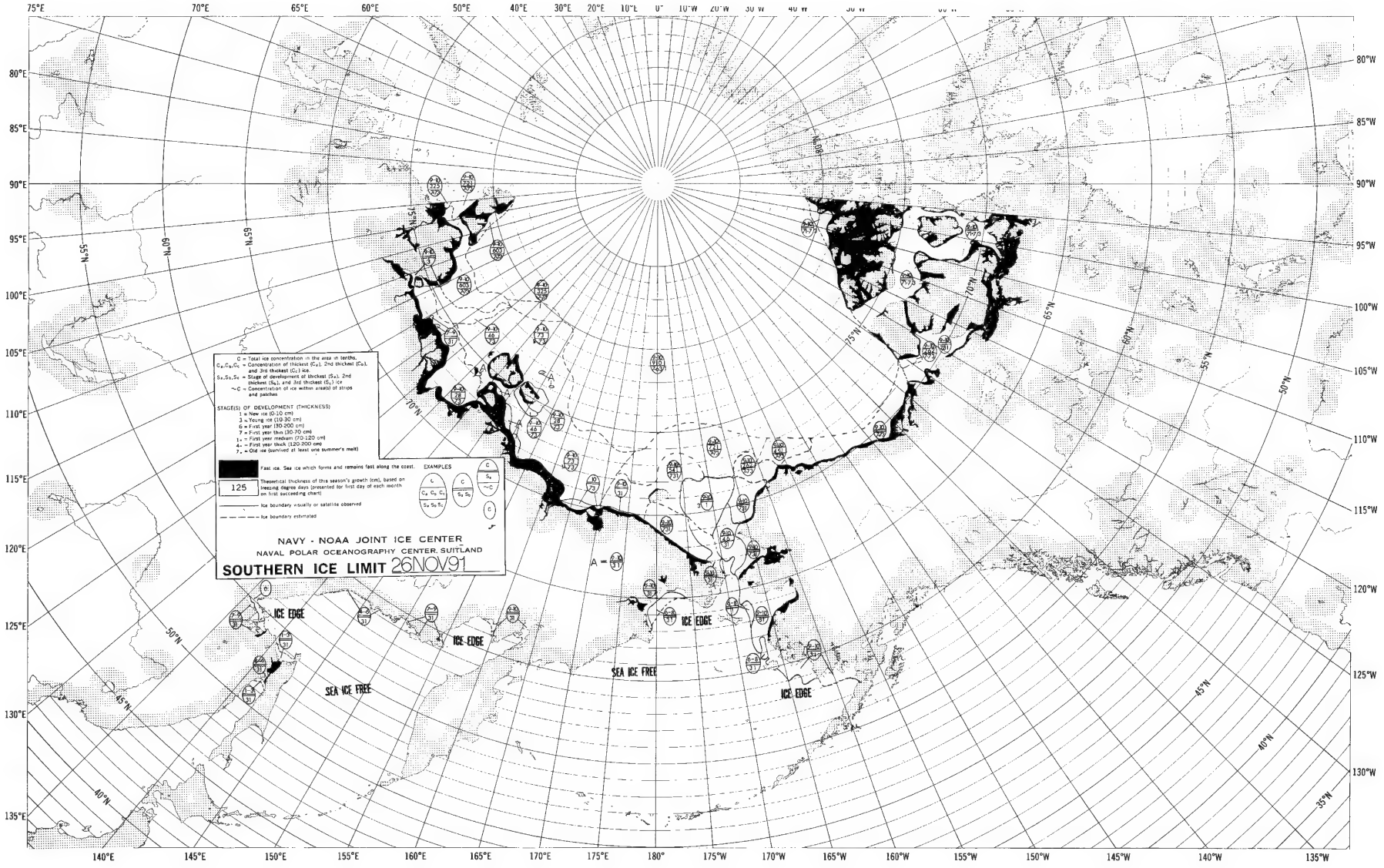

C = Total ice concentration in the area in tenths
$C_1 C_2 C_3$ = Concentration of thickest (C_1), 2nd thickest (C_2), and 3rd thickest (C_3) ice
$S_1 S_2 S_3$ = Stage of development of thickest (S_1), 2nd thickest (S_2), and 3rd thickest (S_3) ice
~C = Concentration of ice within area(s) of strips and patches
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
6 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1_4 = First year medium (70-120 cm)
4_4 = First year thick (120-200 cm)
7_8 = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast.
125
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart)
Ice boundary visually or satellite observed
Ice boundary estimated
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 22OCT91
ICE EDGE
SEA ICE FREE
SEA ICE FREE
75°E
70°E
65°E
60°E
50°E
40°E
30°E
20°E
10°E
0°
10°W
20°W
30°W
40°W
50°W
60°W
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
80°W
85°W
90°W
95°W
100°W
105°W
110°W
115°W
120°W
125°W
130°W
135°W
140°E
145°E
150°E
155°E
160°E
165°E
170°E
175°E
180°
175°W
170°W
165°W
160°W
155°W
150°W
145°W
140°W
135°W
N.55
N.60
N.65
N.70
75°N
70°N
65°N
60°N
55°N
50°N
45°N
40°N
35°N

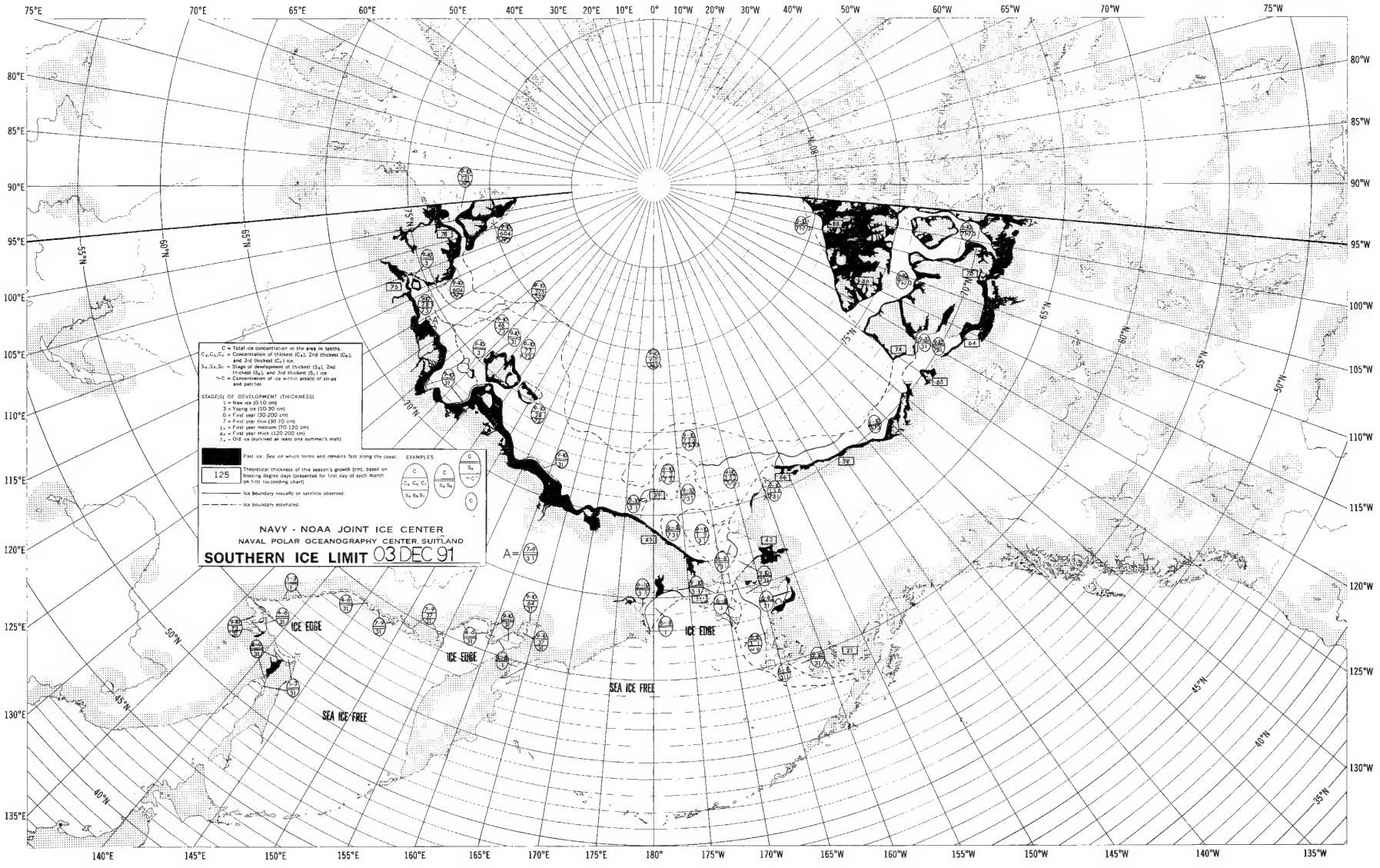

C = Total ice concentration in the area in tenths
$C_t C_2 C_3$ = Concentration of thickest (C_t), 2nd thickest (C_2), and 3rd thickest (C_3) ice
$S_t S_2 S_3$ = Stage of development of thickest (S_t), 2nd thickest (S_2), and 3rd thickest (S_3) ice
~C = Concentration of ice within area(s) of strips and patches
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
4 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1_4 = First year medium (70-120 cm)
4_4 = First year thick (120-200 cm)
7_4 = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast
125 Theoretical thickness of this season's growth (cm), based on freezing degree-days (presented for first day of each month on first succeeding chart)
Ice boundary visually or satellite observed
Ice boundary estimated
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 29OCT91
ICE EDGE
SEA ICE FREE
SEA ICE FREE
75°E
70°E
65°E
60°E
50°E
40°E
30°E
20°E
10°E
0°
10°W
20°W
30°W
40°W
50°W
60°W
65°W
70°W
75°W
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
140°E
145°E
150°E
155°E
160°E
165°E
170°E
175°E
180°
175°W
170°W
165°W
160°W
155°W
150°W
145°W
140°W
135°W
80°W
85°W
90°W
95°W
100°W
105°W
110°W
115°W
120°W
125°W
130°W
N.55
N.09
N.59
N.59
70°N
75°N
70°N
60°N
55°N
50°N
50°N
45°N
40°N
45°N
40°N
35°N

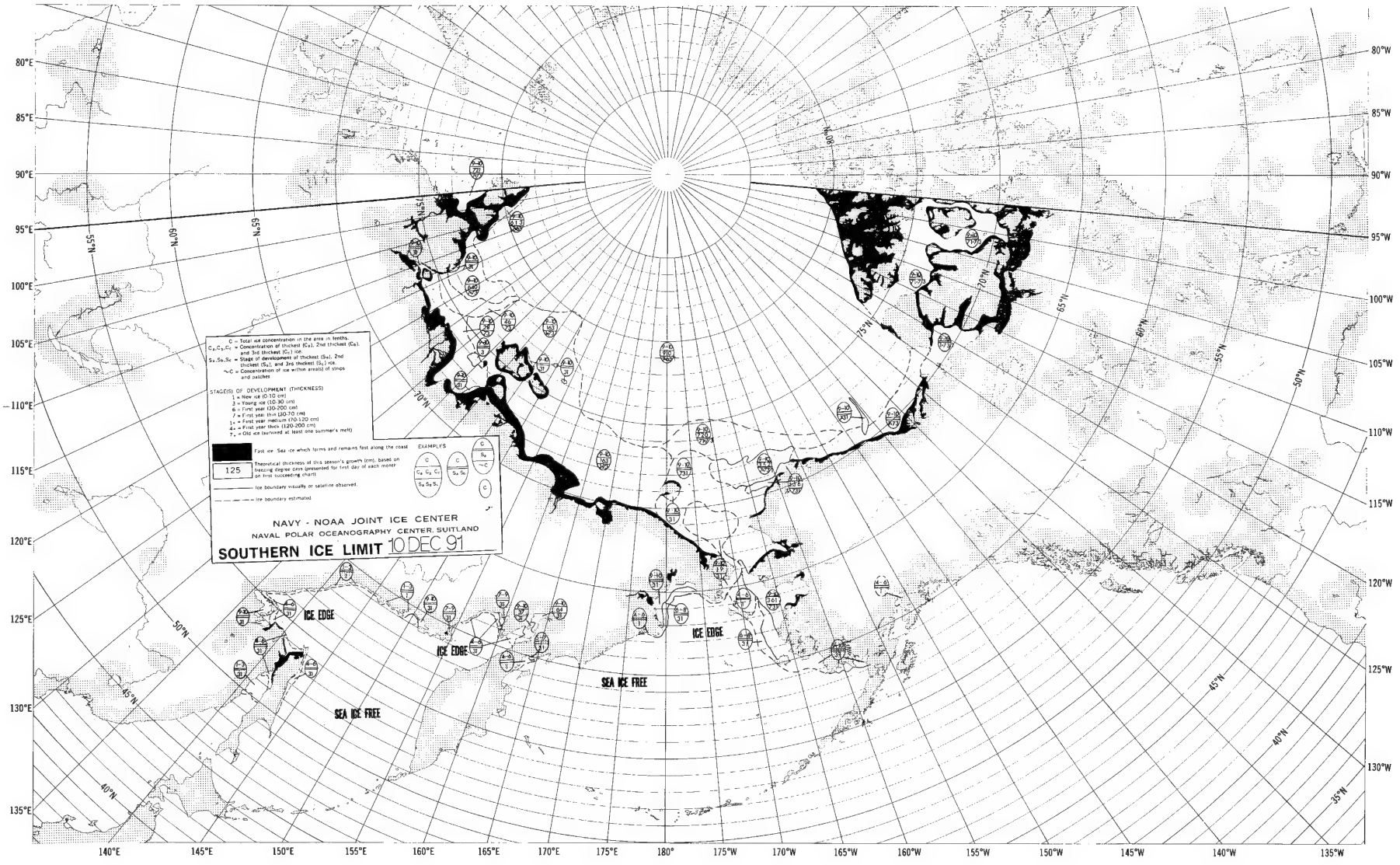

C = Total ice concentration in the area in tenths.
$C_1C_2C_3$ = Concentration of thickest (C_1), 2nd thickest (C_2), and 3rd thickest (C_3) ice.
$S_1S_2S_3$ = Stage of development of thickest (S_1), 2nd thickest (S_2), and 3rd thickest (S_3) ice.
~C = Concentration of ice within area(s) of strips and patches.
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
6 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1_4 = First year medium (70-120 cm)
4_4 = First year thick (120-200 cm)
7_4 = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 05 NOV 91
ICE EDGE
SEA ICE FREE
SEA ICE FREE
A/=

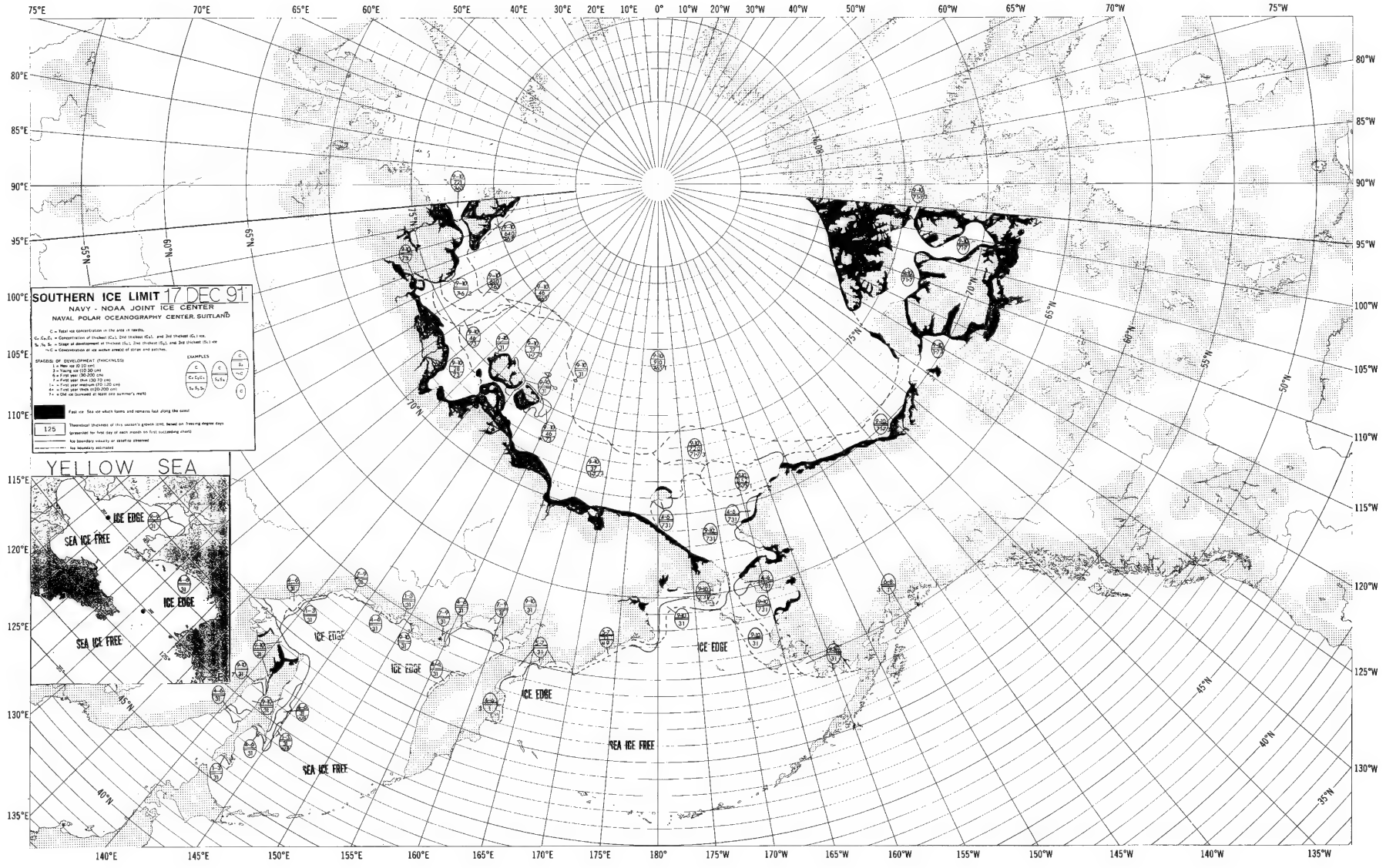

C = Total ice concentration in the area in tenths
$C_A C_B C_C$ = Concentration of thickest (C_A), 2nd thickest (C_B), and 3rd thickest (C_C) ice
$S_A S_B S_C$ = Stage of development of thickest (S_A), 2nd thickest (S_B), and 3rd thickest (S_C) ice
~C = Concentration of ice within areas of strips and patches.
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
2 = Young ice (10-30 cm)
3 = First year (30-200 cm)
4 = First year thin (30-70 cm)
5 = First year medium (70-120 cm)
6 = First year thick (120-200 cm)
7 = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart)
Ice boundary visually or satellite observed.
Ice boundary estimated
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 12 NOV 91
ICE EDGE
ICE EDGE
ICE EDGE
SEA ICE FREE
SEA ICE FREE
A=
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
80°W
85°W
90°W
95°W
100°W
105°W
110°W
115°W
120°W
125°W
130°W
135°W
140°E
145°E
150°E
155°E
160°E
165°E
170°E
175°E
180°
175°W
170°W
165°W
160°W
155°W
150°W
145°W
140°W
135°W
N.55
N.09
N.59
N.80
70°N
75°N
65°N
60°N
55°N
50°N
45°N
40°N
35°N

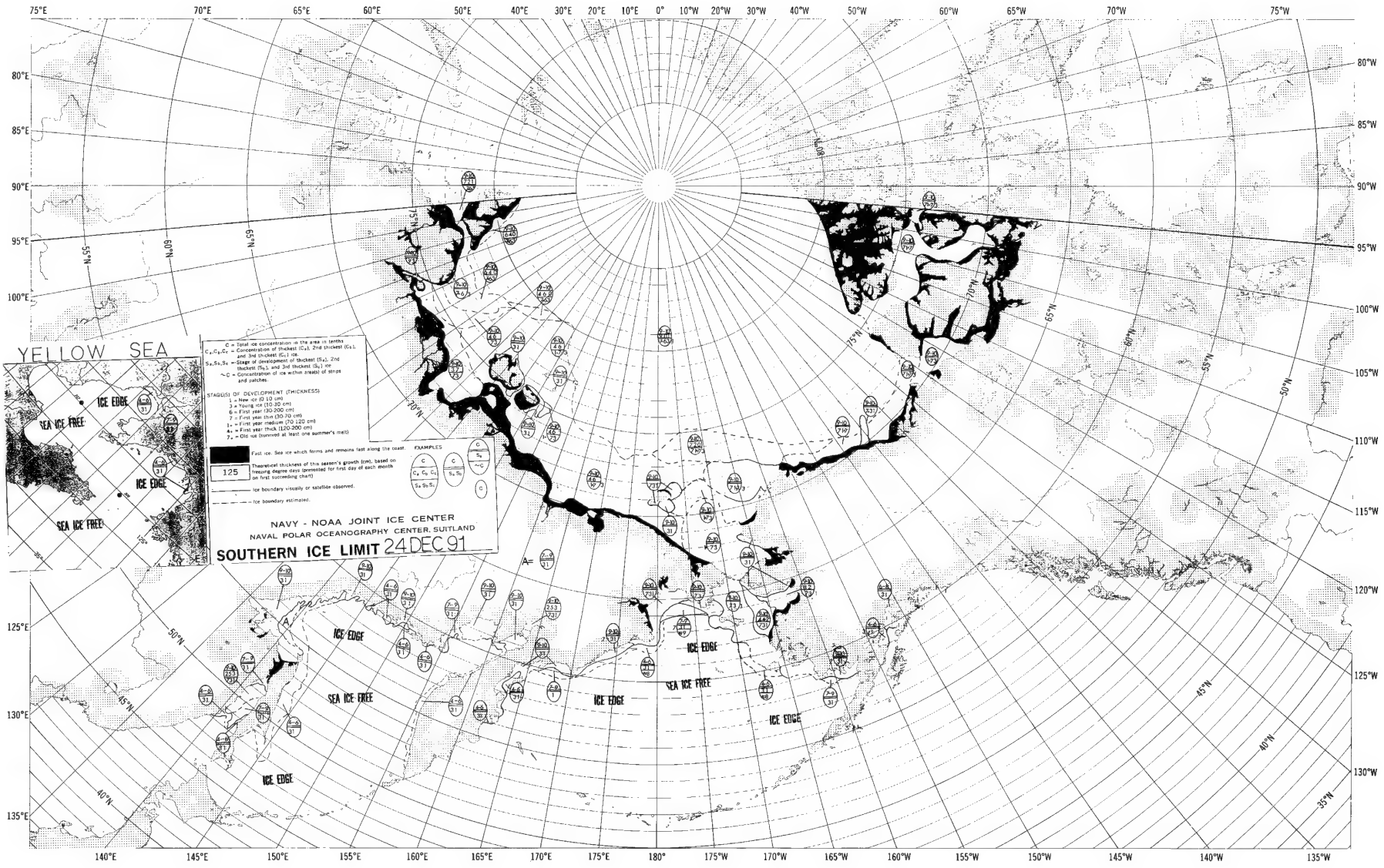

C = Total ice concentration in the area in tenths.
C1,C2,C3 = Concentration of thickest (C1), 2nd thickest (C2), and 3rd thickest (C3) ice.
S1,S2,S3 = Stage of development of thickest (S1), 2nd thickest (S2), and 3rd thickest (S3) ice
~C = Concentration of ice within breaks of strips and patches
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
5 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1. = First year medium (70-120 cm)
4. = First year thick (120-200 cm)
7. = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast.
125
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed
Ice boundary estimated.
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 19 NOV 91
ICE EDGE
ICE EDGE
ICE EDGE
SEA ICE FREE
SEA ICE FREE
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
80°W
85°W
90°W
95°W
100°W
105°W
110°W
115°W
120°W
125°W
130°W
135°W
140°E
145°E
150°E
155°E
160°E
165°E
170°E
175°E
180°
175°W
170°W
165°W
160°W
155°W
150°W
145°W
140°W
135°W
70°N
65°N
60°N
55°N
50°N
45°N
40°N
35°N

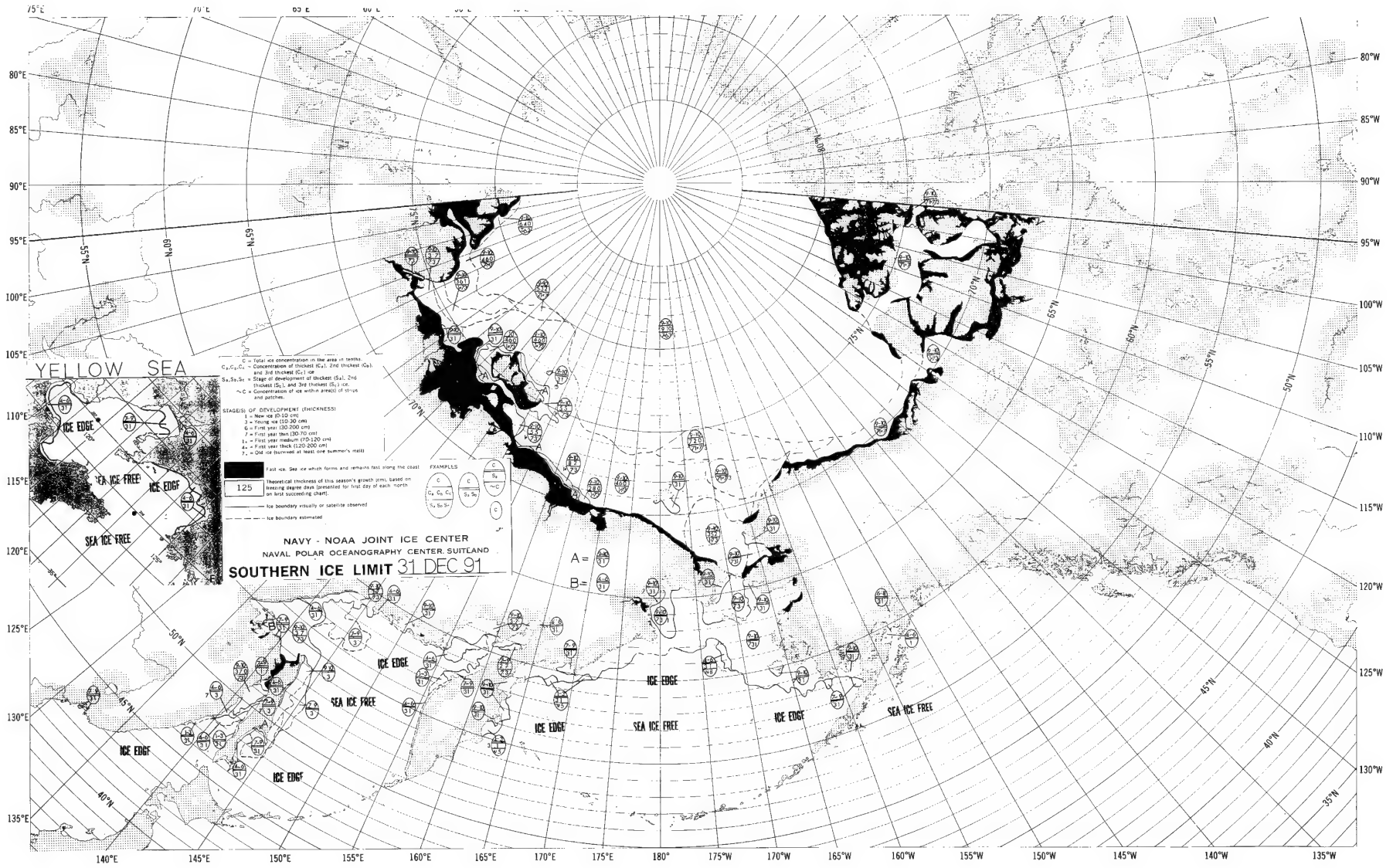

C = Total ice concentration in the area in tenths.
$C_A C_B C_C$ = Concentration of thickest (C_A), 2nd thickest (C_B), and 3rd thickest (C_C) ice.
$S_A S_B S_C$ = Stage of development of thickest (S_A), 2nd thickest (S_B), and 3rd thickest (S_C) ice
~C = Concentration of ice within area(s) of strips and patches
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
4 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1 = First year medium (70-120 cm)
4 = First year thick (120-200 cm)
7 = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast.
125
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart)
Ice boundary visually or satellite observed
Ice boundary estimated
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 26NOV91
ICE EDGE
SEA ICE FREE
ICE EDGE
SEA ICE FREE
ICE EDGE
75°E
70°E
65°E
60°E
50°E
40°E
30°E
20°E
10°E
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
80°W
85°W
90°W
95°W
100°W
105°W
110°W
115°W
120°W
125°W
130°W
135°W
140°E
145°E
150°E
155°E
160°E
165°E
170°E
175°E
180°
175°W
170°W
165°W
160°W
155°W
150°W
145°W
140°W
135°W
55°N
60°N
65°N
70°N
75°N
80°N
50°N
45°N
40°N
35°N

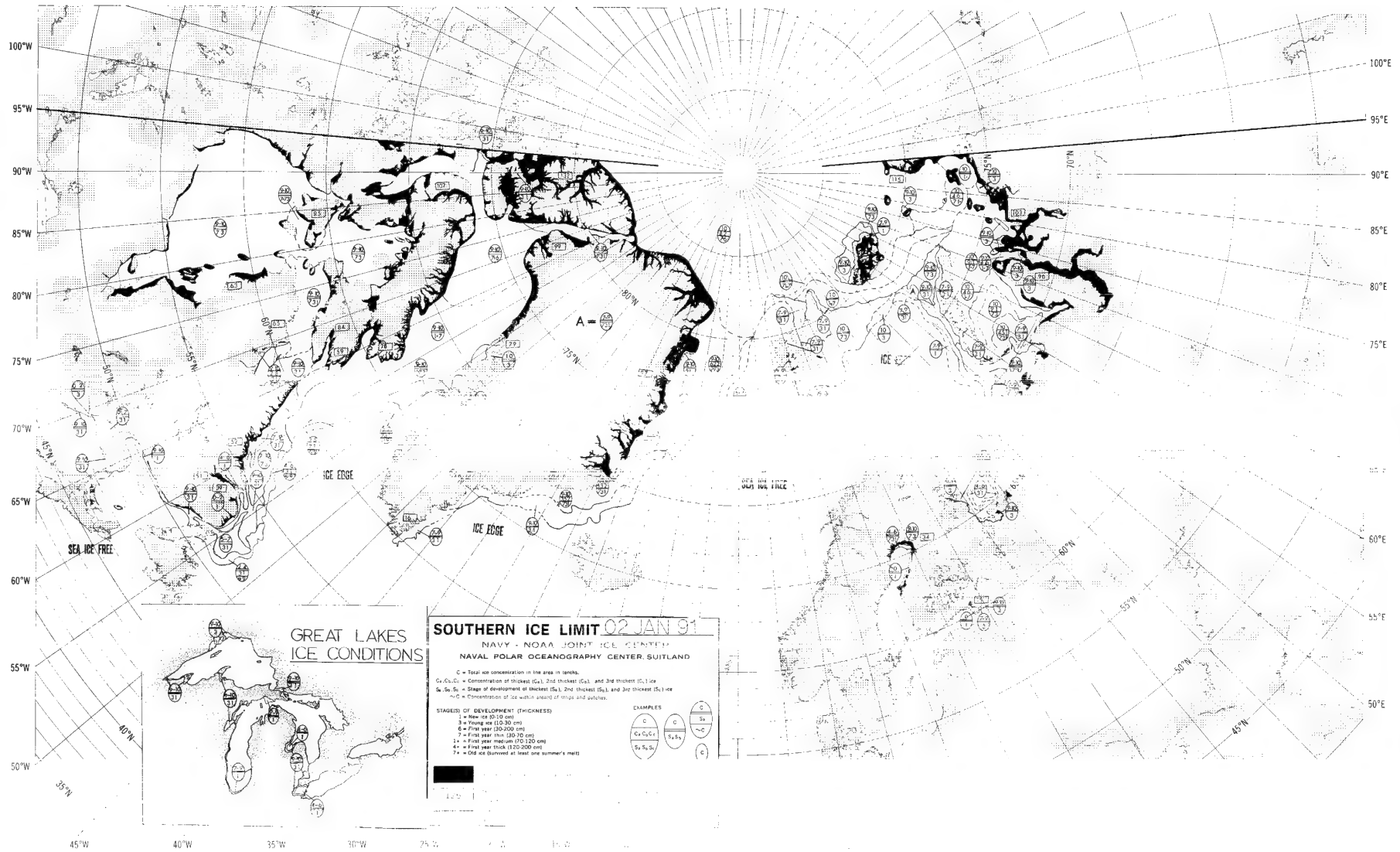

C = Total ice concentration in the area in tenths.
$C_A C_B C_C$ = Concentration of thickest (C_A), 2nd thickest (C_B), and 3rd thickest (C_C) ice.
$S_A S_B S_C$ = Stage of development of thickest (S_A), 2nd thickest (S_B), and 3rd thickest (S_C) ice
~C = Concentration of ice within area(s) of strips and patches
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
G = First year (30-200 cm)
7 = First year thin (30-70 cm)
1_M = First year medium (70-120 cm)
4_M = First year thick (120-200 cm)
7_M = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast.
125
Theoretical thickness of the season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart)
Ice boundary visually or satellite observed.
Ice boundary estimated.
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER SUITLAND
SOUTHERN ICE LIMIT 03 DEC 91
A=
ICE EDGE
ICE EDGE
ICE EDGE
SEA ICE FREE
SEA ICE FREE
75°E
70°E
65°E
60°E
50°E
40°E
30°E
20°E
10°E
0°
10°W
20°W
30°W
40°W
50°W
60°W
65°W
70°W
75°W
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
80°W
85°W
90°W
95°W
100°W
105°W
110°W
115°W
120°W
125°W
130°W
135°W
140°E
145°E
150°E
155°E
160°E
165°E
170°E
175°E
180°
175°W
170°W
165°W
160°W
155°W
150°W
145°W
140°W
135°W
55°N
60°N
65°N
70°N
75°N
80°N
50°N
45°N
40°N
35°N

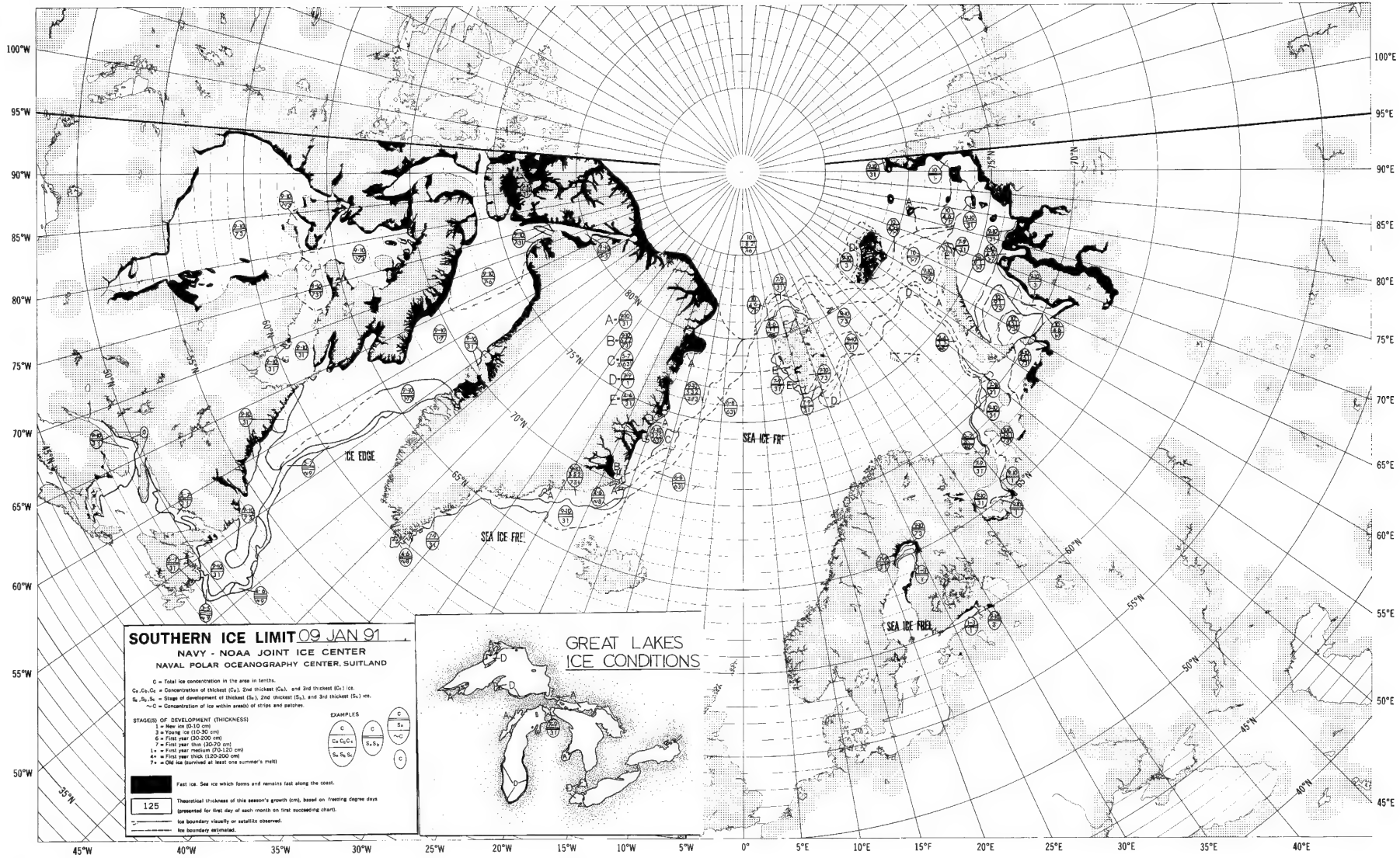

C = Total ice concentration in the area in tenths.
$C_A C_B C_C$ = Concentration of thickest (C_A), 2nd thickest (C_B), and 3rd thickest (C_C) ice.
$S_A S_B S_C$ = Stage of development of thickest (S_A), 2nd thickest (S_B), and 3rd thickest (S_C) ice.
~C = Concentration of ice within area(s) of strips and patches
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
2 = Young ice (10-30 cm)
3 = First year (30-200 cm)
4 = First year thin (30-70 cm)
5 = First year medium (70-120 cm)
6 = First year thick (120-200 cm)
7 = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast
125
Theoretical thickness of this season's growth (cm), based on freezing degree days (processed for first day of each month on first succeeding chart)
Ice boundary visually or satellite observed.
Ice boundary estimated.
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 10 DEC 91
ICE EDGE
ICE EDGE
ICE EDGE
SEA ICE FREE
SEA ICE FREE
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
140°E
145°E
150°E
155°E
160°E
165°E
170°E
175°E
180°
175°W
170°W
165°W
160°W
155°W
150°W
145°W
140°W
135°W
80°W
85°W
90°W
95°W
100°W
105°W
110°W
115°W
120°W
125°W
130°W
N.55
N.09
N.59
N.50
N.80
70°N
75°N
65°N
60°N
55°N
50°N
45°N
40°N
35°N

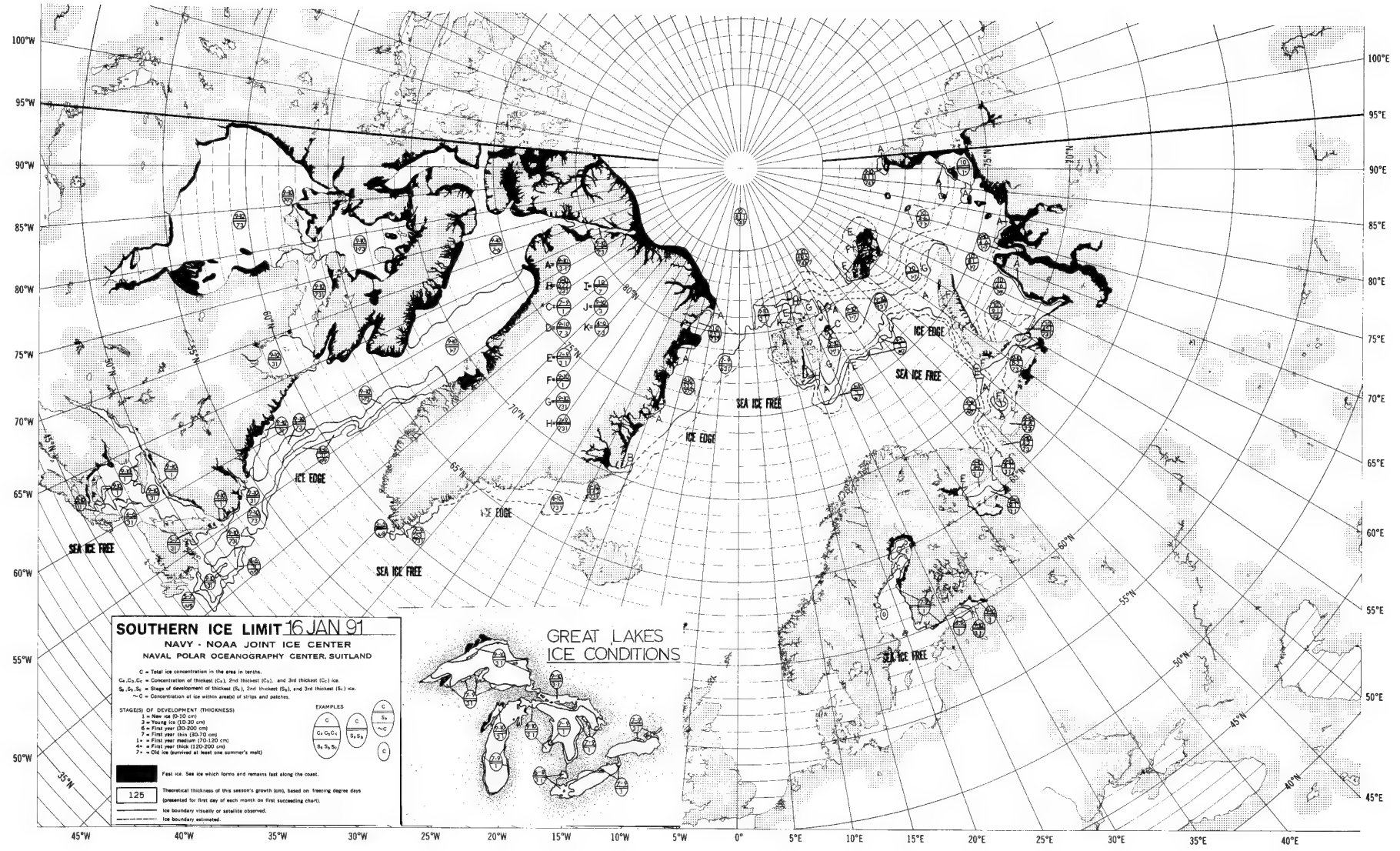

SOUTHERN ICE LIMIT 17 DEC 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER SUITLAND
EXAMPLES
STAGES OF DEVELOPMENT (THICKNESS)
Fast ice: Sea ice which forms and remains fast along the coast
125
Ice boundary visually or satellite observed
Ice boundary estimated
YELLOW SEA
ICE EDGE
SEA ICE FREE
ICE EDGE
SEA ICE FREE
ICE EDGE
ICE EDGE
ICE EDGE
ICE EDGE
SEA ICE FREE
SEA ICE FREE
75°E
70°E
65°E
60°E
50°E
40°E
30°E
20°E
10°E
0°
10°W
20°W
30°W
40°W
50°W
60°W
65°W
70°W
75°W
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
80°W
85°W
90°W
95°W
100°W
105°W
110°W
115°W
120°W
125°W
130°W
135°W
140°E
145°E
150°E
155°E
160°E
165°E
170°E
175°E
180°
175°W
170°W
165°W
160°W
155°W
150°W
145°W
140°W
135°W
N.55
N.09
N.59
N.15
N.09
70°N
75°N
70°W
65°W
60°W
55°W
50°W
45°N
40°N
35°N

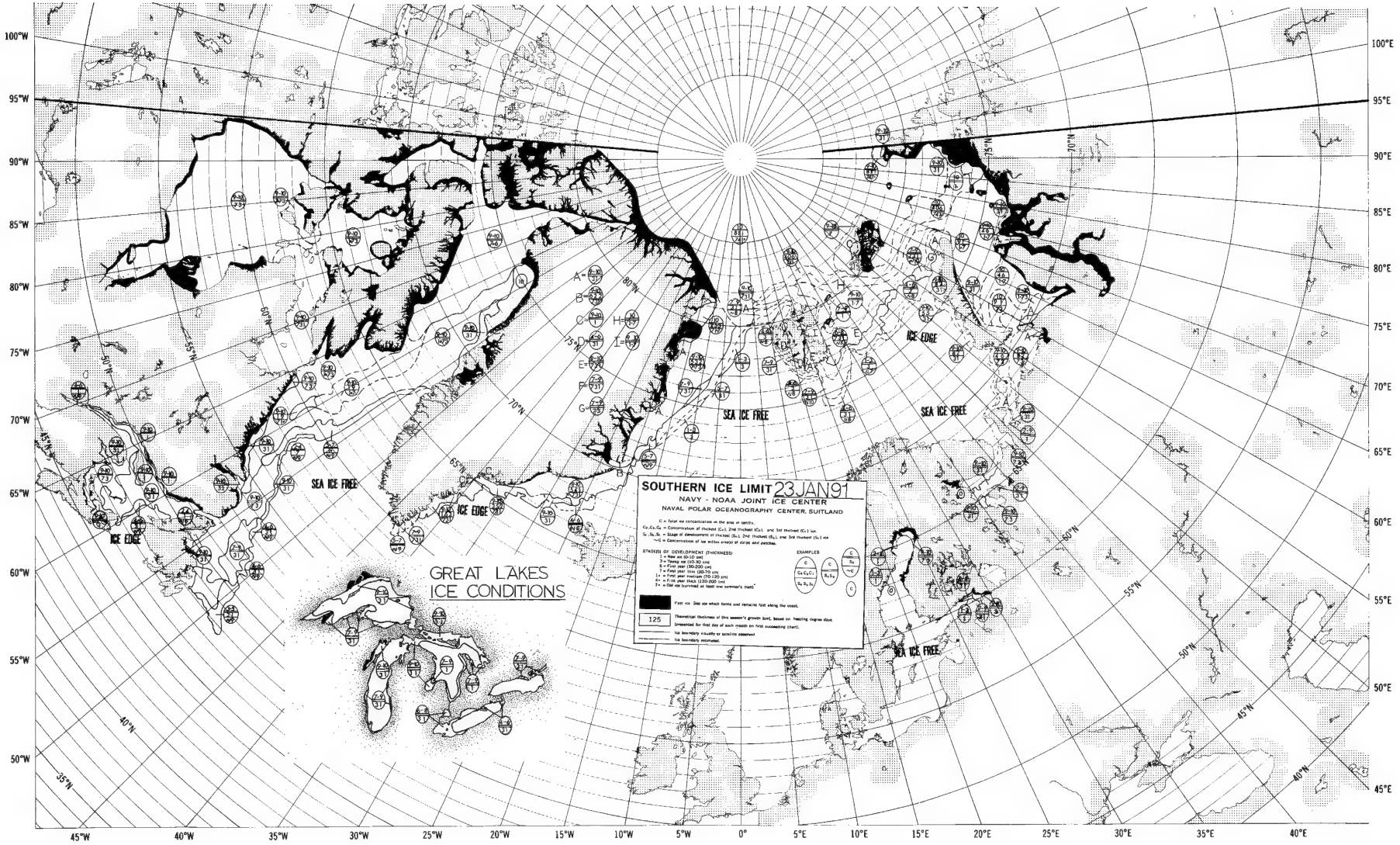

YELLOW SEA
ICE EDGE
SEA ICE FREE
ICE EDGE
SEA ICE FREE
C = Total ice concentration in the area in tenths
$C_1C_2C_3$ = Concentration of thickest (C_1), 2nd thickest (C_2), and 3rd thickest (C_3) ice
$S_1S_2S_3$ = Stage of development of thickest (S_1), 2nd thickest (S_2), and 3rd thickest (S_3) ice
~C = Concentration of ice within areas(s) of strips and patches
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
5 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1_c = First year medium (70-120 cm)
4_c = First year thick (120-200 cm)
7_c = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast.
125
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart)
Ice boundary visually or satellite observed.
Ice boundary estimated.
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 24 DEC 91
ICE EDGE
SEA ICE FREE
ICE EDGE
ICE EDGE
SEA ICE FREE
ICE EDGE
ICE EDGE
75°E 70°E 65°E 60°E 50°E 40°E 30°E 20°E 10°E 0° 10°W 20°W 30°W 40°W 50°W 60°W 65°W 70°W 75°W
80°E 85°E 90°E 95°E 100°E 125°E 130°E 135°E
80°W 85°W 90°W 95°W 100°W 105°W 110°W 115°W 120°W 125°W 130°W
140°E 145°E 150°E 155°E 160°E 165°E 170°E 175°E 180° 175°W 170°W 165°W 160°W 155°W 150°W 145°W 140°W 135°W
55°N 60°N 63°N 70°N 75°N 80°N 65°N 60°N 55°N 50°N 45°N 40°N 35°N
50°N 45°N 40°N


YELLOW SEA
ICE EDGE
SEA ICE FREE
ICE EDGE
SEA ICE FREE
C = Total ice concentration in the area in tenths
$C_a C_b C_c$ = Concentration of thickest (C_a), 2nd thickest (C_b), and 3rd thickest (C_c) ice
$S_a S_b S_c$ = Stage of development of thickest (S_a), 2nd thickest (S_b), and 3rd thickest (S_c) ice.
~C = Concentration of ice within area(s) of strips and patches.
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
2 = Young ice (10-30 cm)
3 = First year thin (30-70 cm)
4 = First year medium (70-120 cm)
5 = First year thick (120-200 cm)
6 = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast
125
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on land succeeding chart).
Ice boundary visually or satellite observed
Ice boundary estimated
EXAMPLES
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 31 DEC 91
A=
B=
ICE EDGE
SEA ICE FREE
ICE EDGE
ICE EDGE
SEA ICE FREE
ICE EDGE
ICE EDGE
SEA ICE FREE
ICE EDGE
SEA ICE FREE
ICE EDGE
75°E
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
125°E
130°E
135°E
140°E
145°E
150°E
155°E
160°E
165°E
170°E
175°E
180°
175°W
170°W
165°W
160°W
155°W
150°W
145°W
140°W
135°W
80°W
85°W
90°W
95°W
100°W
105°W
110°W
115°W
120°W
125°W
130°W
55°N
60°N
65°N
70°N
75°N
80°N
50°N
45°N
40°N
35°N


100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
50°W
45°W
40°W
35°W
30°W
100°E
95°E
90°E
85°E
80°E
75°E
60°E
55°E
50°E
45°N
50°N
55°N
60°N
70°N
75°N
80°N
ICE EDGE
ICE EDGE
SEA ICE FREE
SEA ICE FREE
ICE
A =
GREAT LAKES
ICE CONDITIONS
SOUTHERN ICE LIMIT 02 JAN 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
C = Total ice concentration in the area in tenths.
$C_A C_B C_C$ = Concentration of thickest (C_A), 2nd thickest (C_B), and 3rd thickest (C_C) ice
$S_A S_B S_C$ = Stage of development of thickest (S_A), 2nd thickest (S_B), and 3rd thickest (S_C) ice
~/C = Concentration of ice within areas of floes and patches.
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
6 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1+ = First year medium (70-120 cm)
4+ = First year thick (120-200 cm)
7+ = Old ice (survived at least one summer's melt)
EXAMPLES


SOUTHERN ICE LIMIT 09 JAN 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
C = Total ice concentration in the area in tenths.
C_A, C_B, C_C = Concentration of thickest (C_A), 2nd thickest (C_B), and 3rd thickest (C_C) ice.
S_A, S_B, S_C = Stage of development of thickest (S_A), 2nd thickest (S_B), and 3rd thickest (S_C) ice.
~C = Concentration of ice within area(s) of strips and patches.
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
6 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1+ = First year medium (70-120 cm)
4+ = First year thick (120-200 cm)
7+ = Old ice (survived at least one summer's melt)
EXAMPLES
Fast ice. Sea ice which forms and remains fast along the coast.
125
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
GREAT LAKES
ICE CONDITIONS
ICE EDGE
SEA ICE FREE
SEA ICE FREE
SEA ICE FREE
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
50°W
45°W
40°W
35°W
30°W
25°W
20°W
15°W
10°W
5°W
0°
5°E
10°E
15°E
20°E
25°E
30°E
35°E
40°E
45°E
50°E
55°E
60°E
65°E
70°E
75°E
80°E
85°E
90°E
95°E
100°E


SOUTHERN ICE LIMIT 16 JAN 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
C = Total ice concentration in the area in tenths.
$C_A C_B C_C$ = Concentration of thickest (C_A), 2nd thickest (C_B), and 3rd thickest (C_C) ice.
$S_A S_B S_C$ = Stage of development of thickest (S_A), 2nd thickest (S_B), and 3rd thickest (S_C) ice.
~C = Concentration of ice within area(s) of strips and patches.
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
2 = Young ice (10-30 cm)
3 = Grey ice (30-70 cm)
4 = First year (30-200 cm)
5 = First year thin (30-70 cm)
1+ = First year medium (70-120 cm)
4+ = First year thick (120-200 cm)
7+ = Old ice (survived at least one summer's melt)
EXAMPLES
Fast ice. See ice which forms and remains fast along the coast.
125
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
GREAT LAKES
ICE CONDITIONS
ICE EDGE
SEA ICE FREE
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
50°W
45°W
40°W
35°W
30°W
25°W
20°W
15°W
10°W
5°W
0°
5°E
10°E
15°E
20°E
25°E
30°E
35°E
40°E
45°E
50°E
55°E
60°E
65°E
70°E
75°E
80°E
85°E
90°E
95°E
100°E


SOUTHERN ICE LIMIT 23JAN91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
GREAT LAKES
ICE CONDITIONS
SEA ICE FREE
ICE EDGE
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
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80°E
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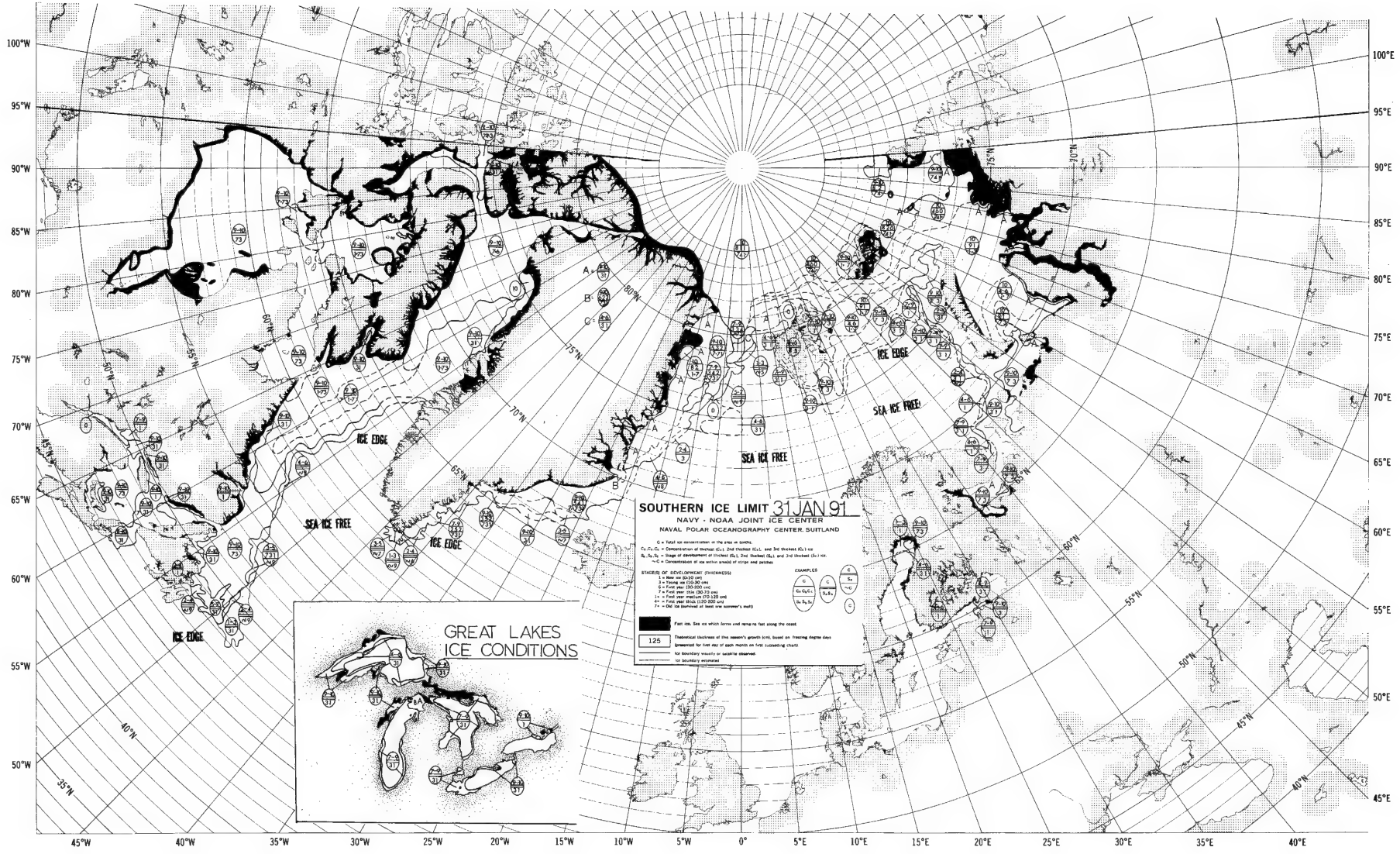
90°E
95°E
100°E


SOUTHERN ICE LIMIT 31JAN 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
GREAT LAKES ICE CONDITIONS
ICE EDGE
SEA ICE FREE
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
50°W
45°W
40°W
35°W
30°W
25°W
20°W
15°W
10°W
5°W
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35°E
40°E
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90°E
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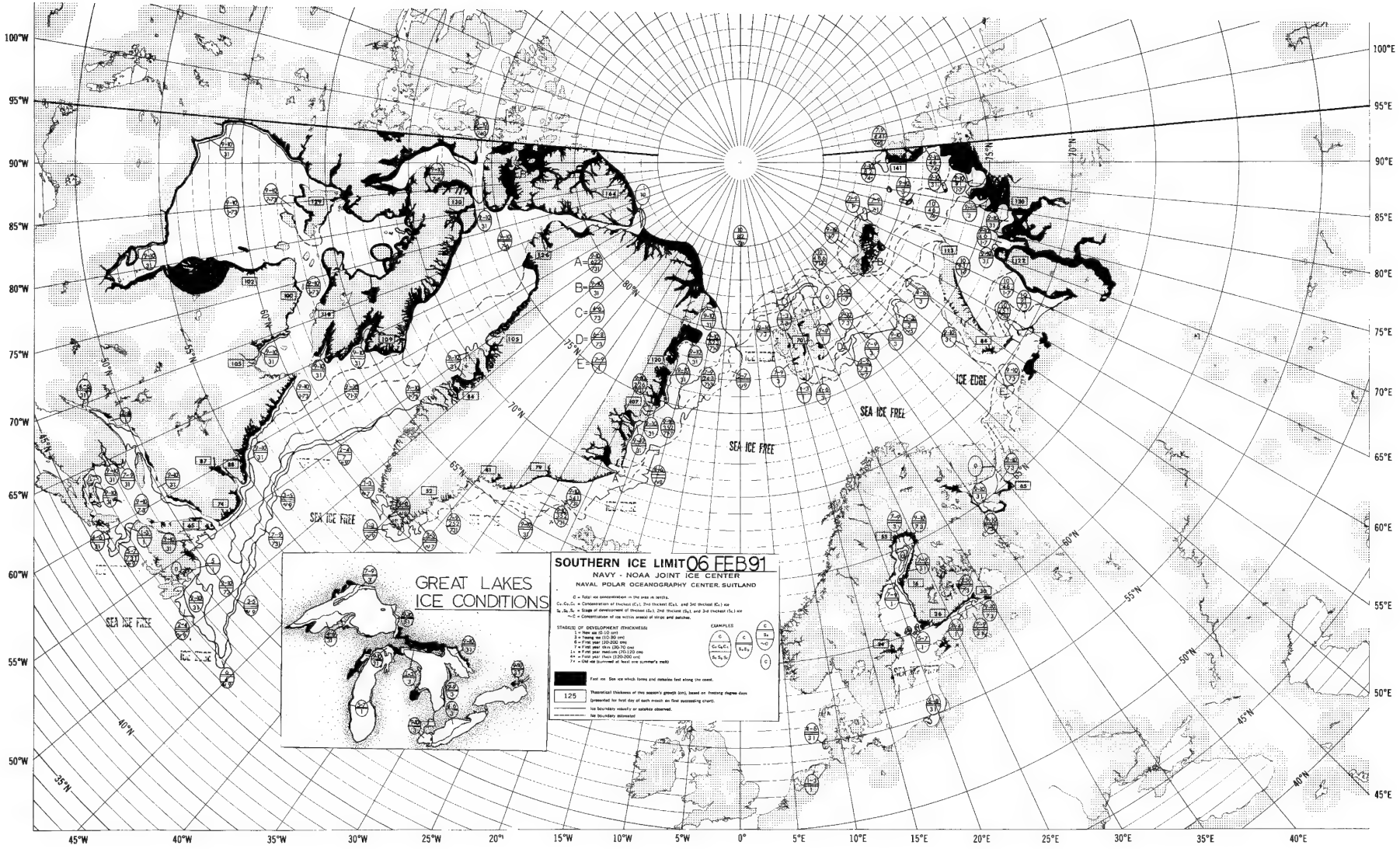
SOUTHERN ICE LIMIT 06 FEB 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
GREAT LAKES
ICE CONDITIONS
SEA ICE FREE
ICE EDGE
A=
B=
C=
D=
E=
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
50°W
45°W
40°W
35°W
30°W
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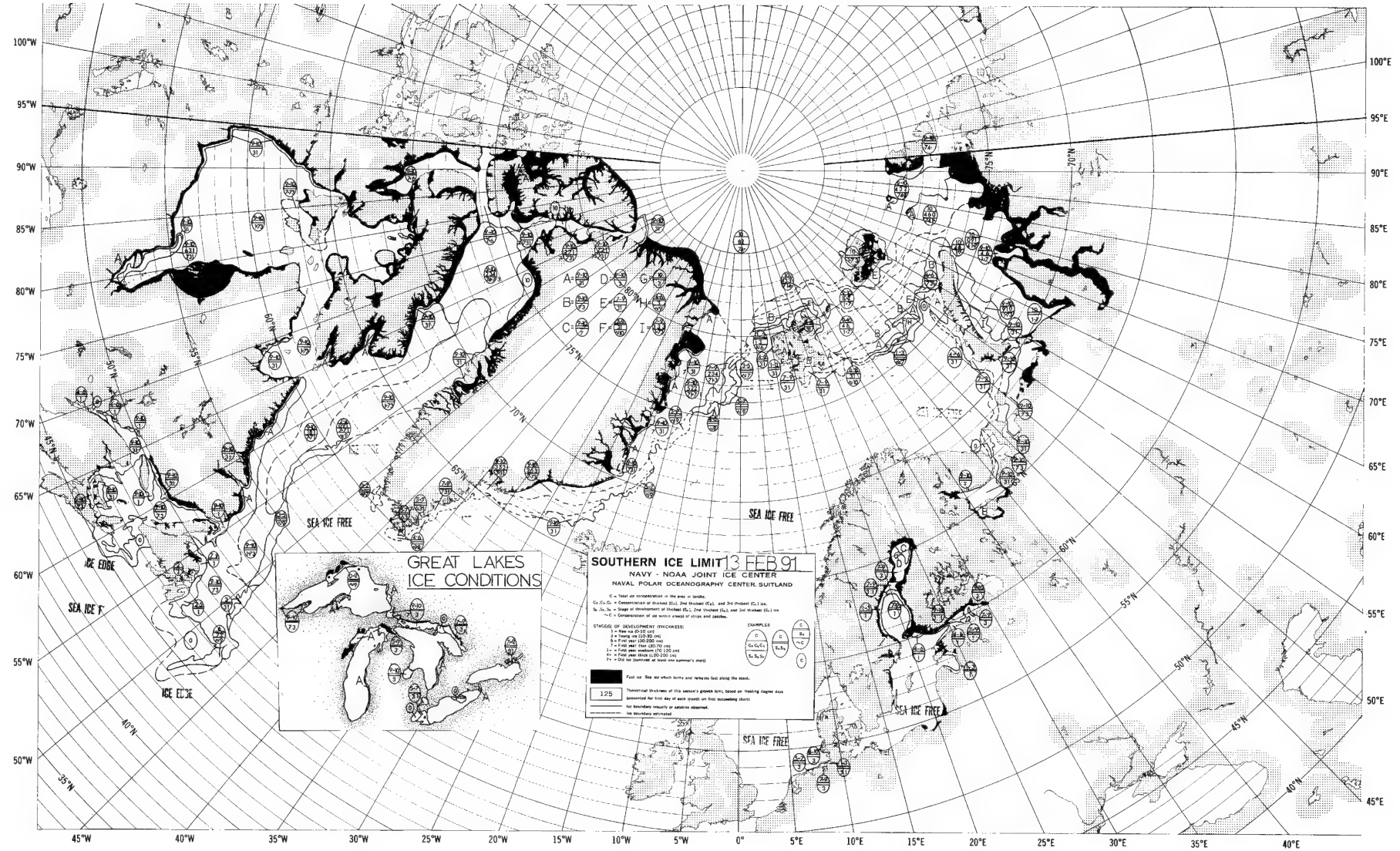
95°E
100°E


GREAT LAKES
ICE CONDITIONS
SOUTHERN ICE LIMIT 13 FEB 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SEA ICE FREE
ICE EDGE
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
50°W
45°W
40°W
35°W
30°W
25°W
20°W
15°W
10°W
5°W
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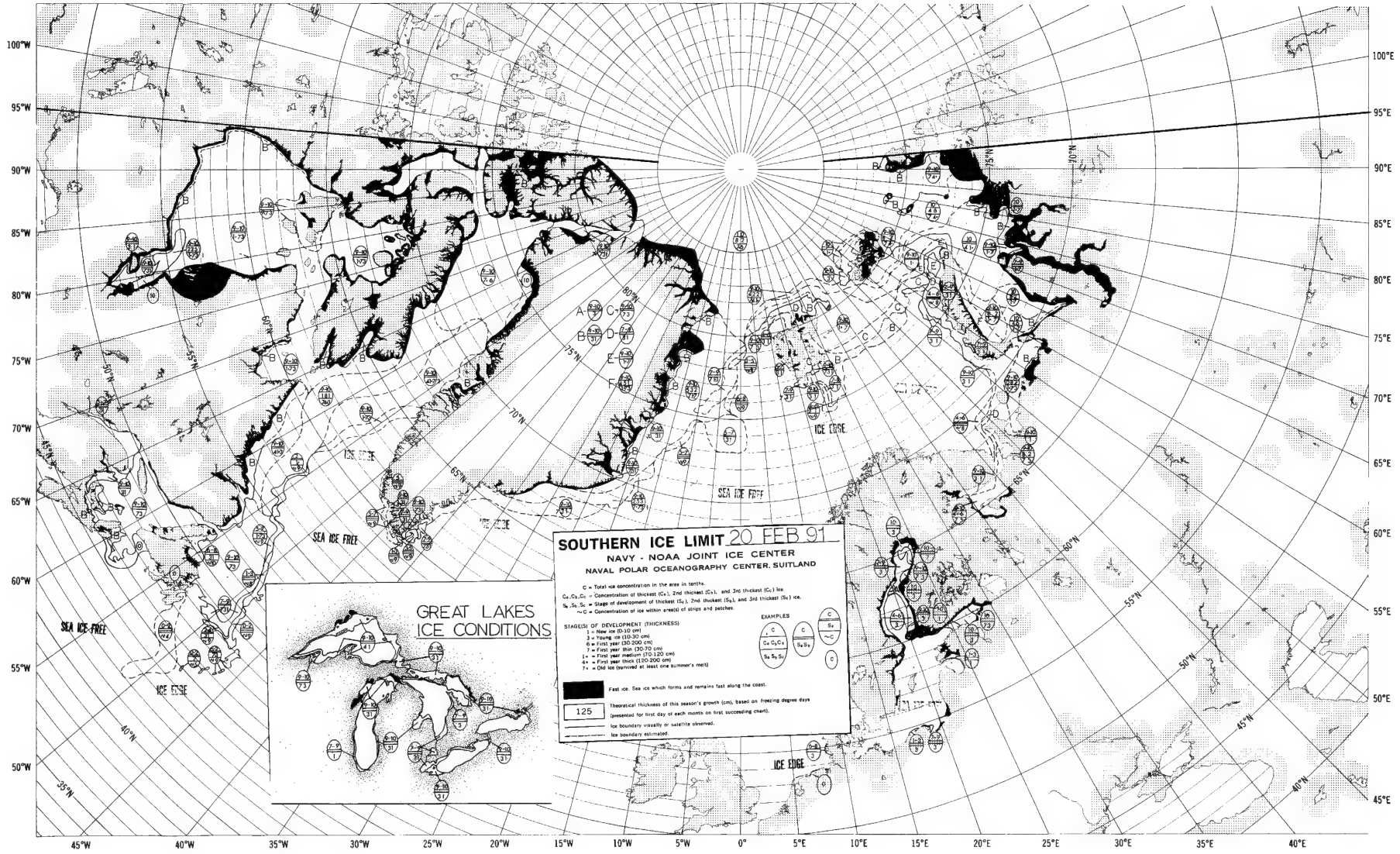
SOUTHERN ICE LIMIT 20 FEB 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
C = Total ice concentration in the area in tenths.
Ca,Cb,Cc = Concentration of thickest (Ca), 2nd thickest (Cb), and 3rd thickest (Cc) ice.
Sa,Sb,Sc = Stage of development of thickest (Sa), 2nd thickest (Sb), and 3rd thickest (Sc) ice.
~C = Concentration of ice within area(s) of strips and patches.
EXAMPLES
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
4 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1+ = First year medium (70-120 cm)
4+ = First year thick (120-200 cm)
7+ = Old ice (survived at least one summer's melt)
Fast ice. Sea ice which forms and remains fast along the coast.
125
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
GREAT LAKES
ICE CONDITIONS
ICE EDGE
SEA ICE FREE
SEA ICE-FREE
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
50°W
45°W
40°W
35°W
30°W
25°W
20°W
15°W
10°W
5°W
0°
5°E
10°E
15°E
20°E
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35°E
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75°E
80°E
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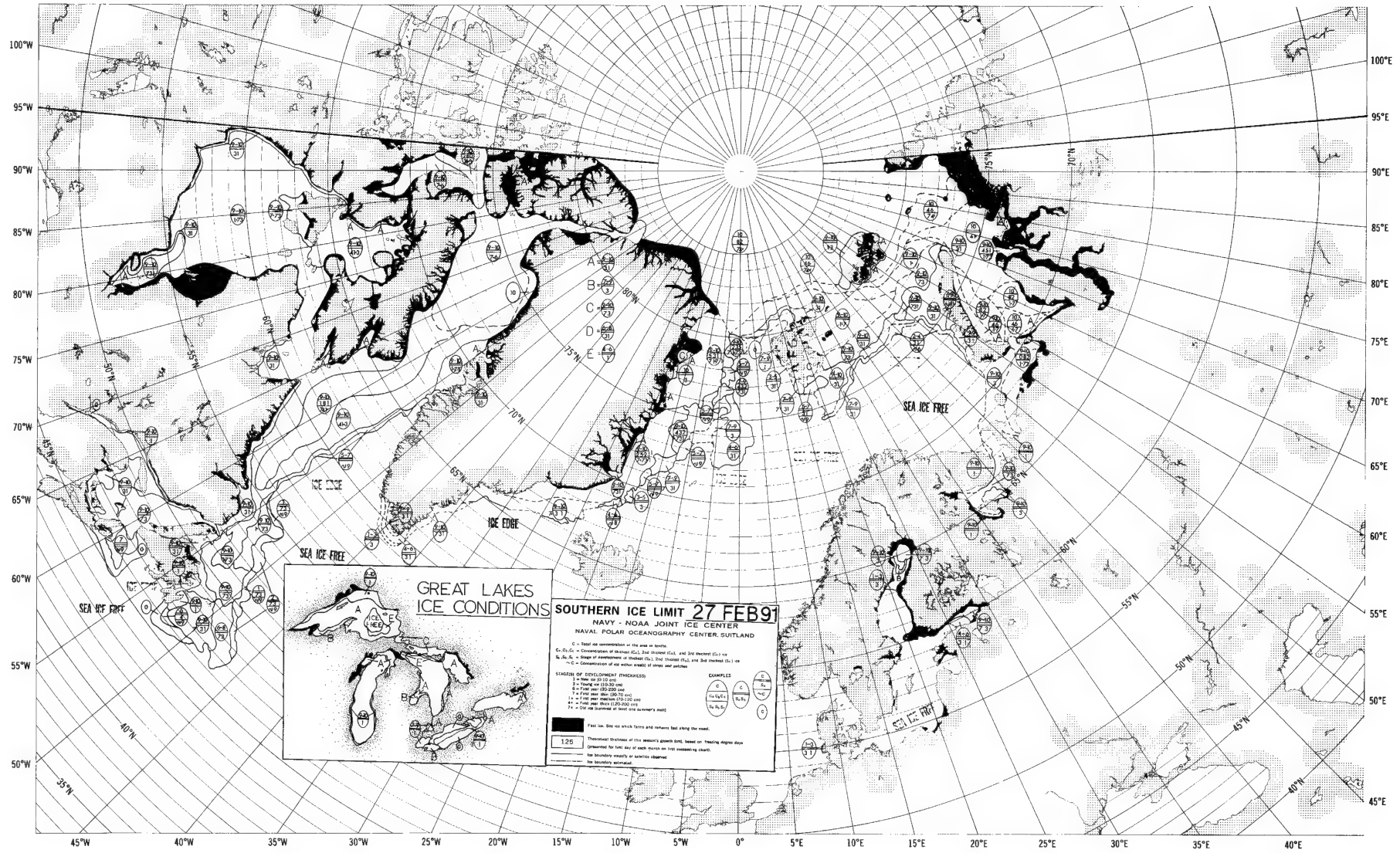
GREAT LAKES
ICE CONDITIONS
SOUTHERN ICE LIMIT 27 FEB91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
STAGES OF DEVELOPMENT (THICKNESS)
EXAMPLES
SEA ICE FREE
ICE EDGE
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
50°W
45°W
40°W
35°W
30°W
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20°W
15°W
10°W
5°W
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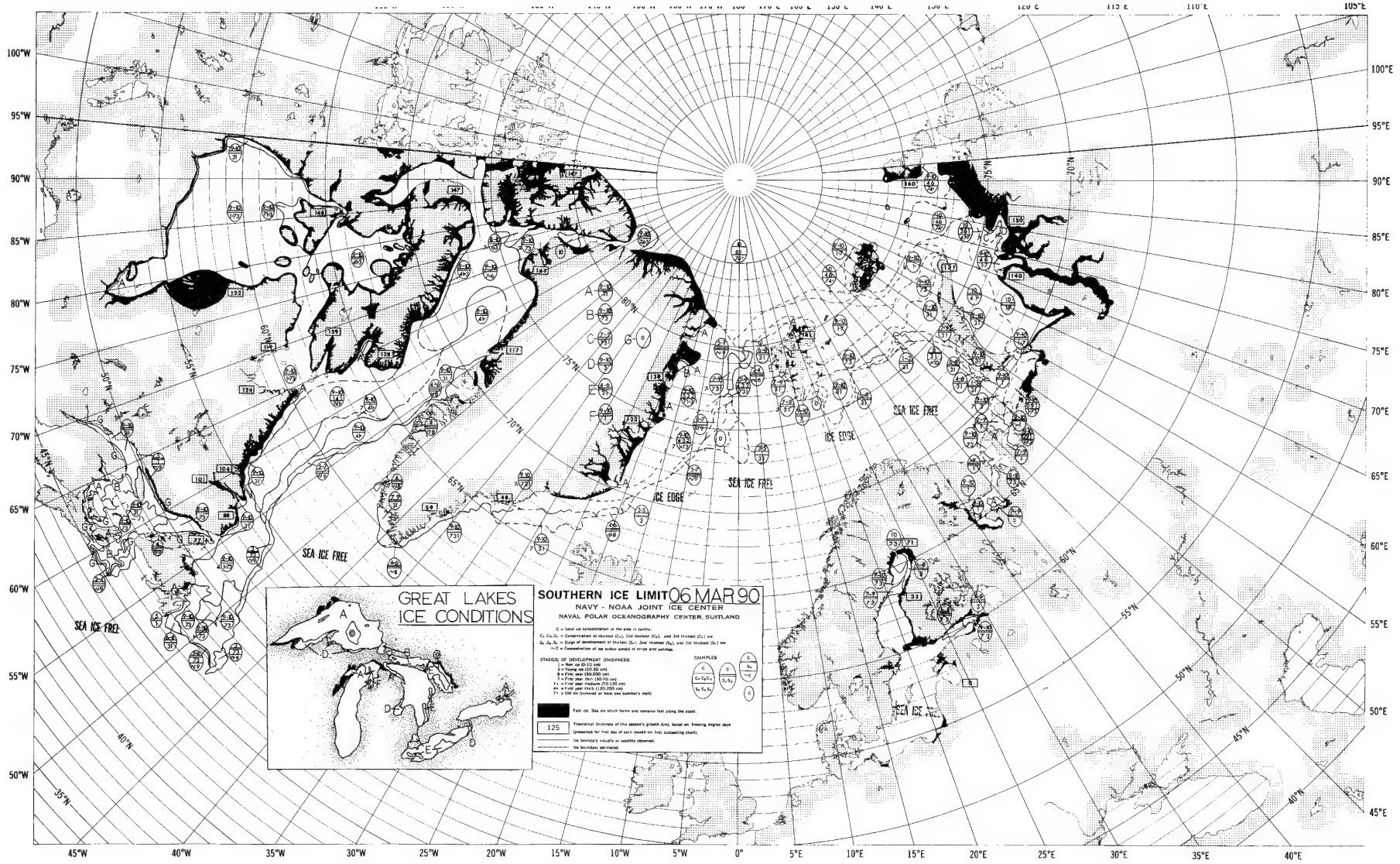
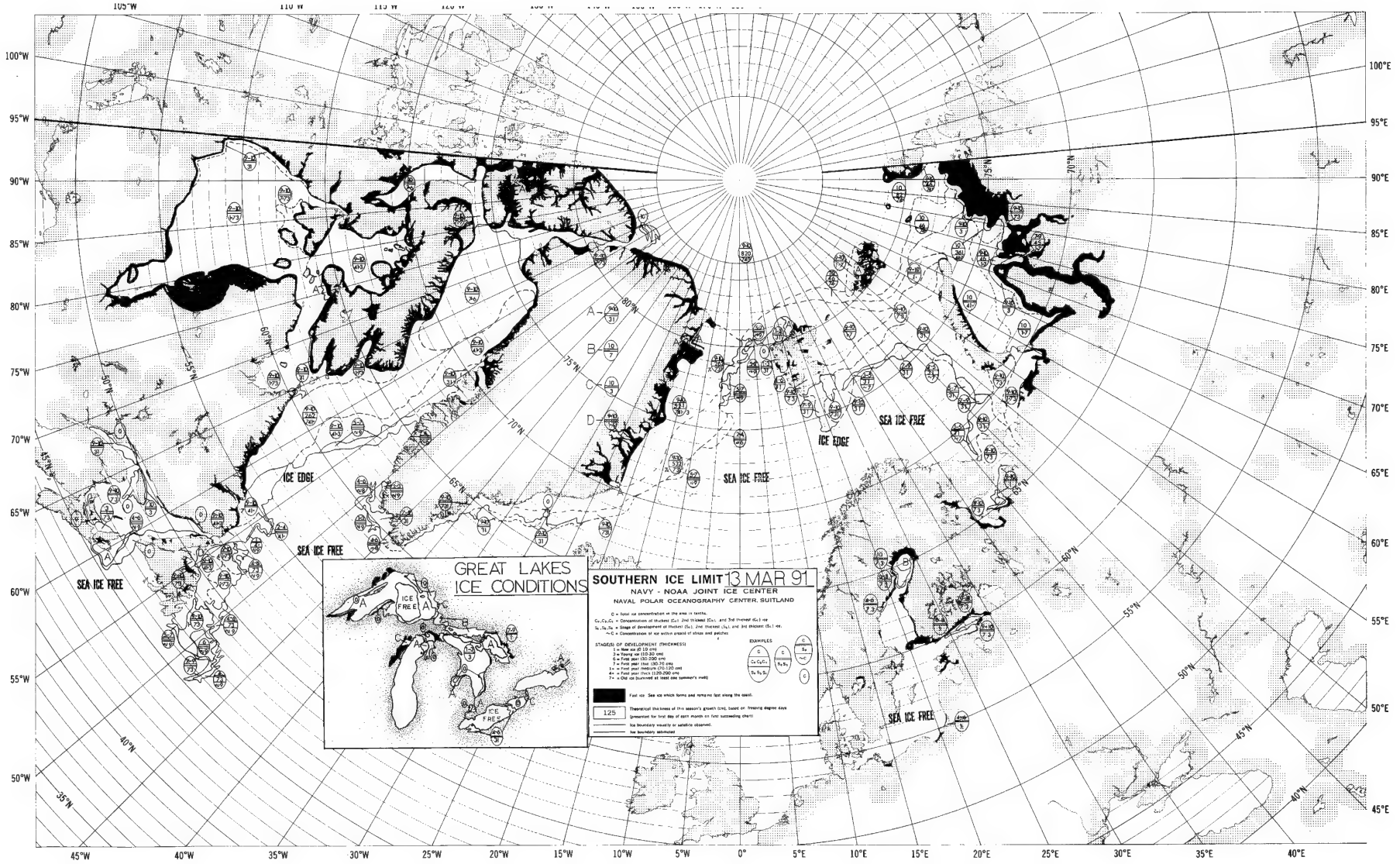
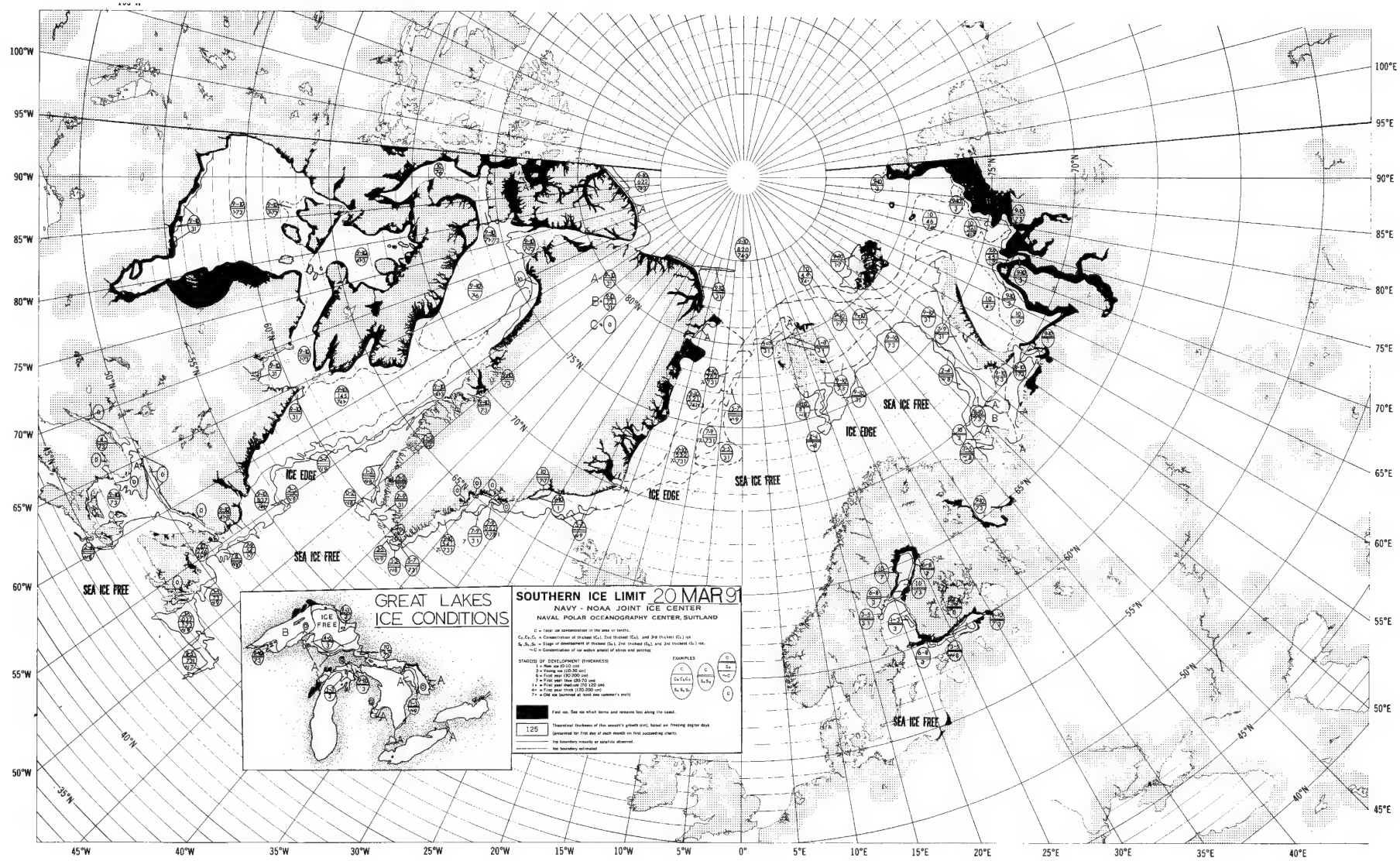

GREAT LAKES
ICE CONDITIONS
SOUTHERN ICE LIMIT 06 MAR 90
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SEA ICE FREE
ICE EDGE
SEA ICE


GREAT LAKES
ICE CONDITIONS
ICE FREE
ICE FREE
SOUTHERN ICE LIMIT 13 MAR 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SEA ICE FREE
ICE EDGE
SEA ICE FREE
ICE EDGE
SEA ICE FREE
SEA ICE FREE
SEA ICE FREE


GREAT LAKES
ICE CONDITIONS
ICE FREE
SOUTHERN ICE LIMIT 20 MAR 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
EXAMPLES
SEA ICE FREE
ICE EDGE
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
50°W
45°W
40°W
35°W
30°W
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15°W
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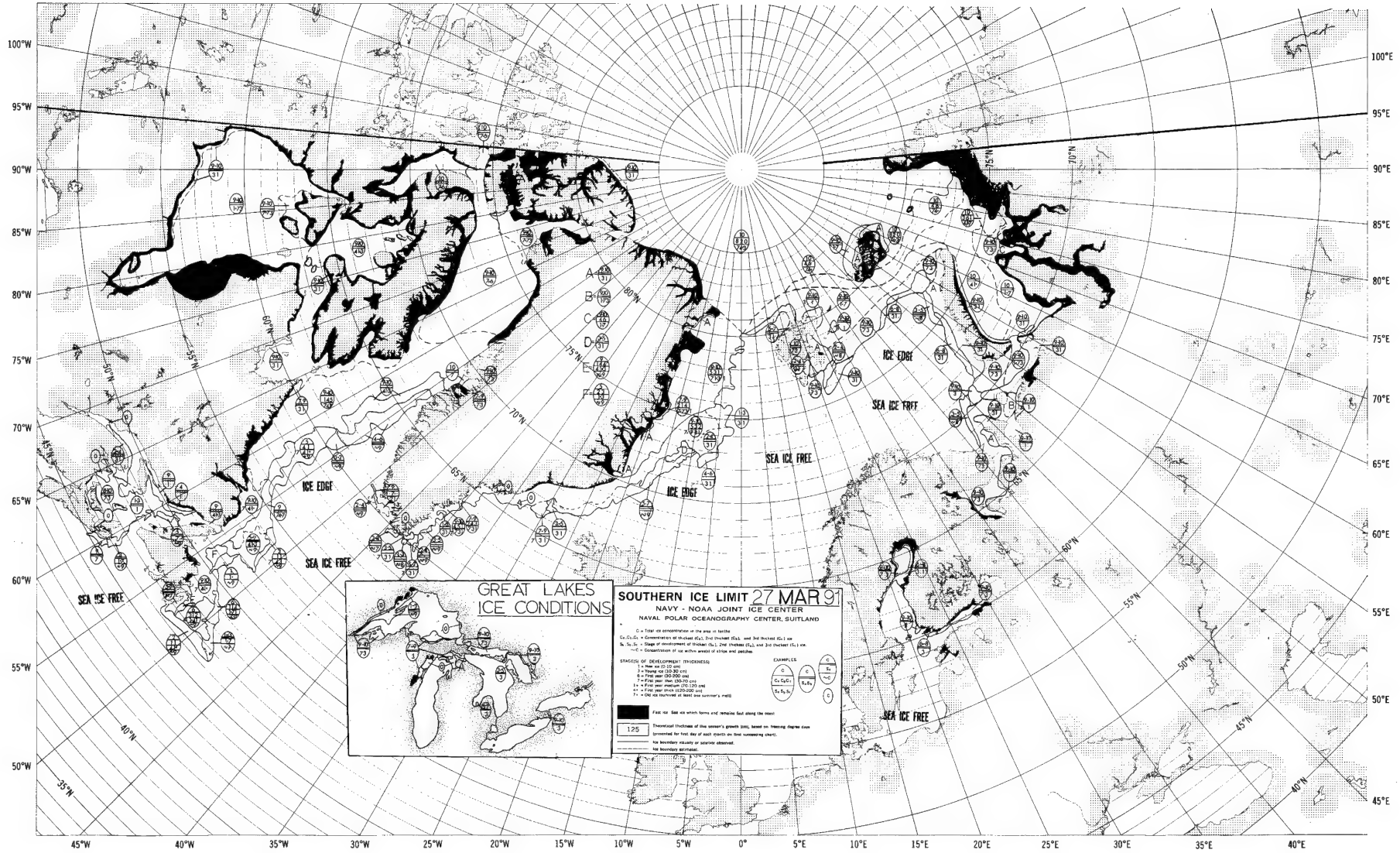
100°E


GREAT LAKES
ICE CONDITIONS
SOUTHERN ICE LIMIT 27 MAR 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE EDGE
SEA ICE FREE
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
50°W
45°W
40°W
35°W
30°W
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95°E
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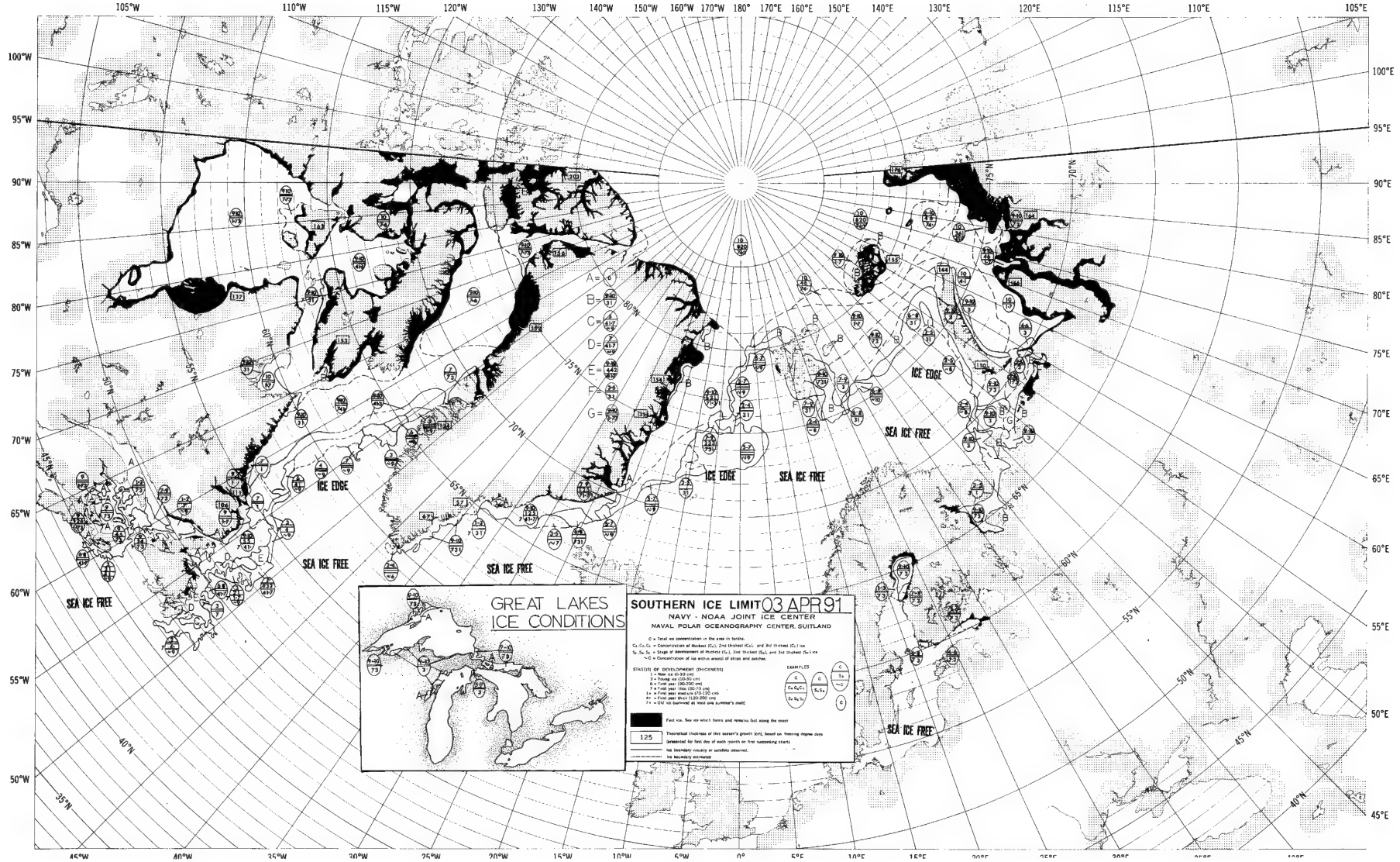
105°W
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80°N
75°N
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45°N
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A=
B=
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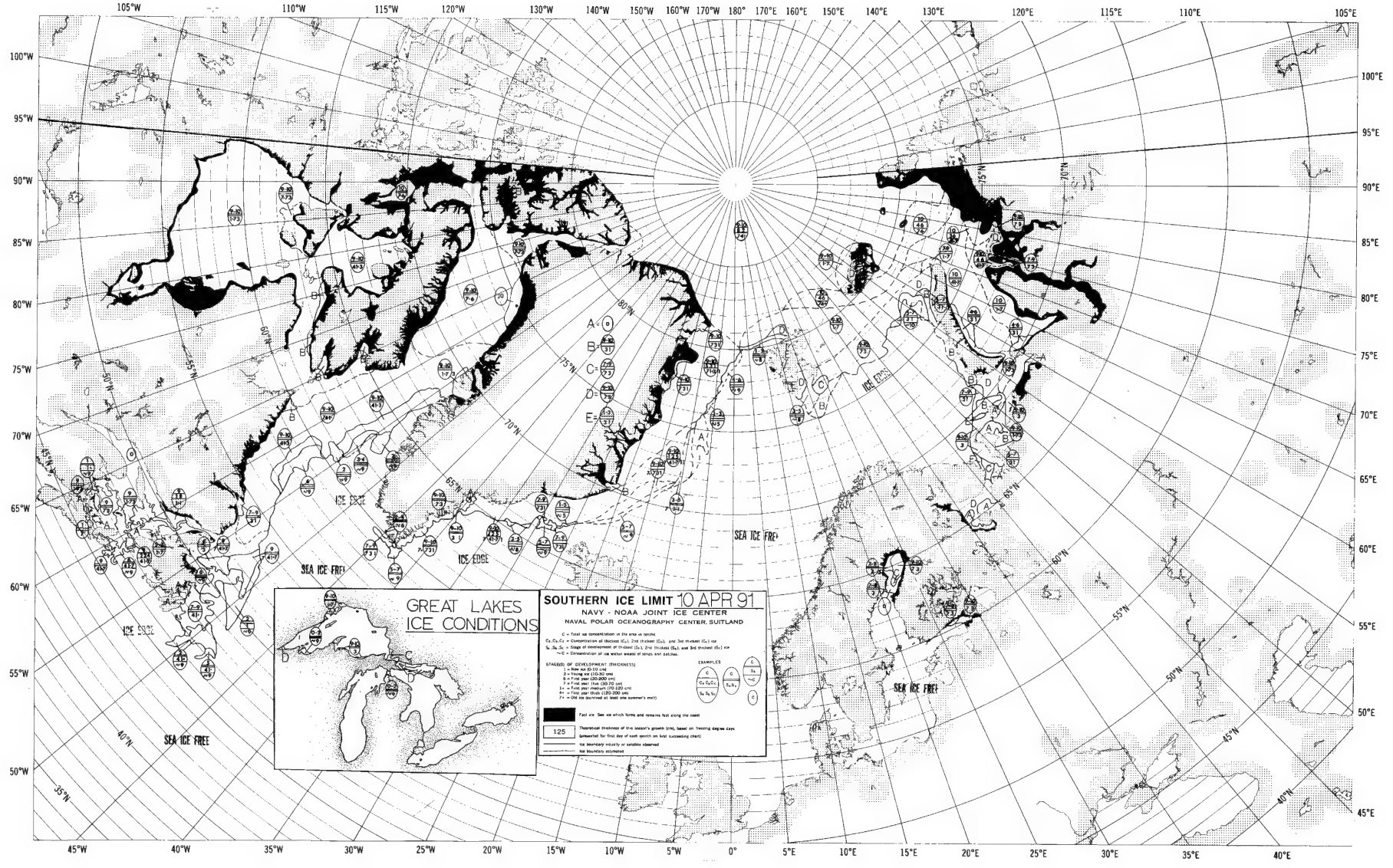
G=
ICE EDGE
SEA ICE FREE
GREAT LAKES
ICE CONDITIONS
SOUTHERN ICE LIMIT 03 APR 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
STAGES OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
2 = Young ice (10-30 cm)
3 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1+ = First year medium (70-120 cm)
4= = First year thick (120-200 cm)
7+ = Old ice (survived at least one summer's melt)
EXAMPLES
Fast ice. See ice which forms and remains fast along the coast
125
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart)
Ice boundary initially or satellite observed.
Ice boundary estimated


GREAT LAKES
ICE CONDITIONS
SOUTHERN ICE LIMIT 10 APR 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SEA ICE FREE
ICE EDGE
105°W
110°W
115°W
120°W
130°W
140°W
150°W
160°W
170°W
180°
170°E
160°E
150°E
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130°E
120°E
115°E
110°E
105°E
100°W
95°W
90°W
85°W
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75°W
70°W
65°W
60°W
55°W
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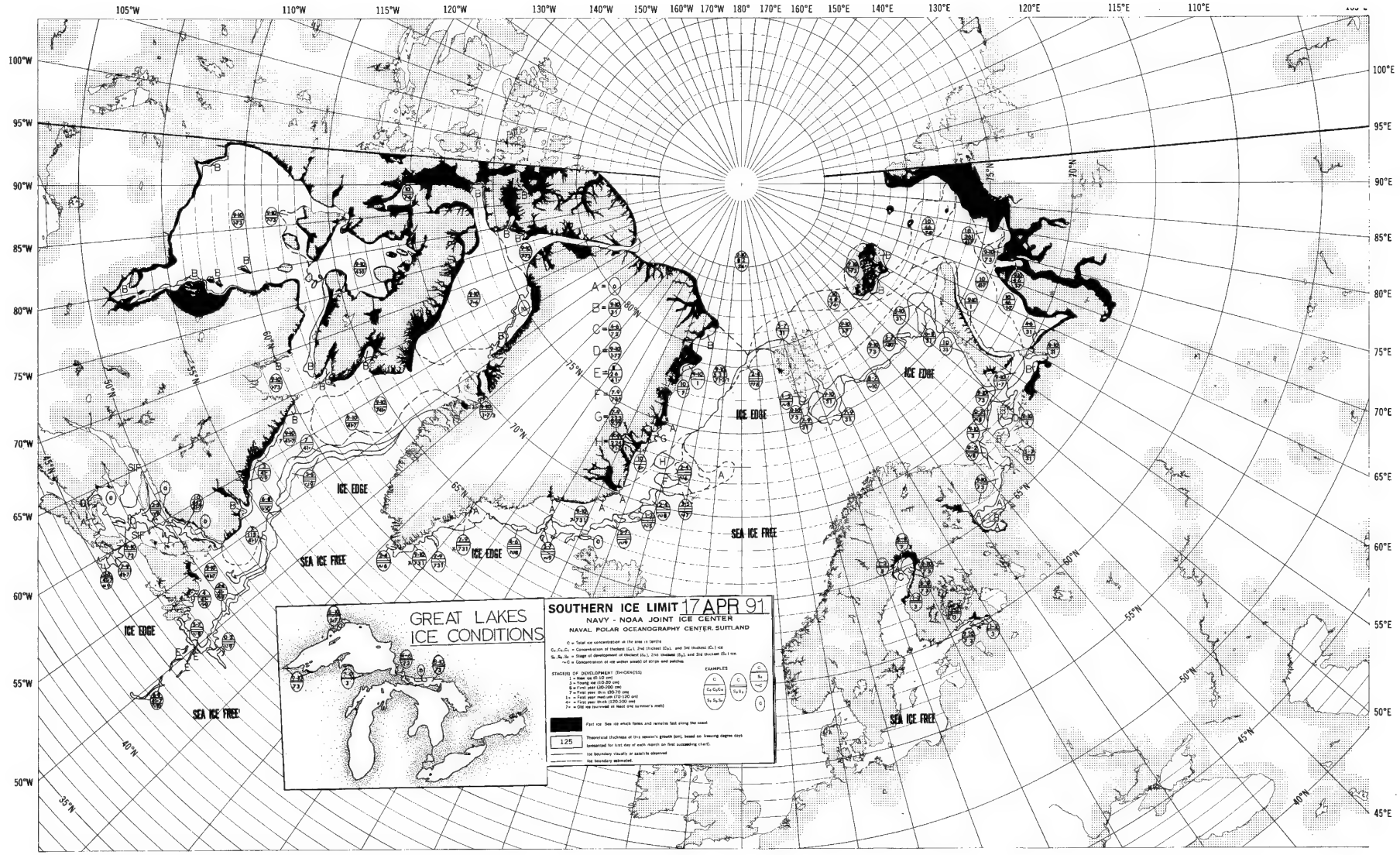
105°W
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85°W
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70°W
65°W
60°W
55°W
50°W
100°E
95°E
90°E
85°E
80°E
75°E
70°E
65°E
60°E
55°E
50°E
45°E
40°N
35°N
45°N
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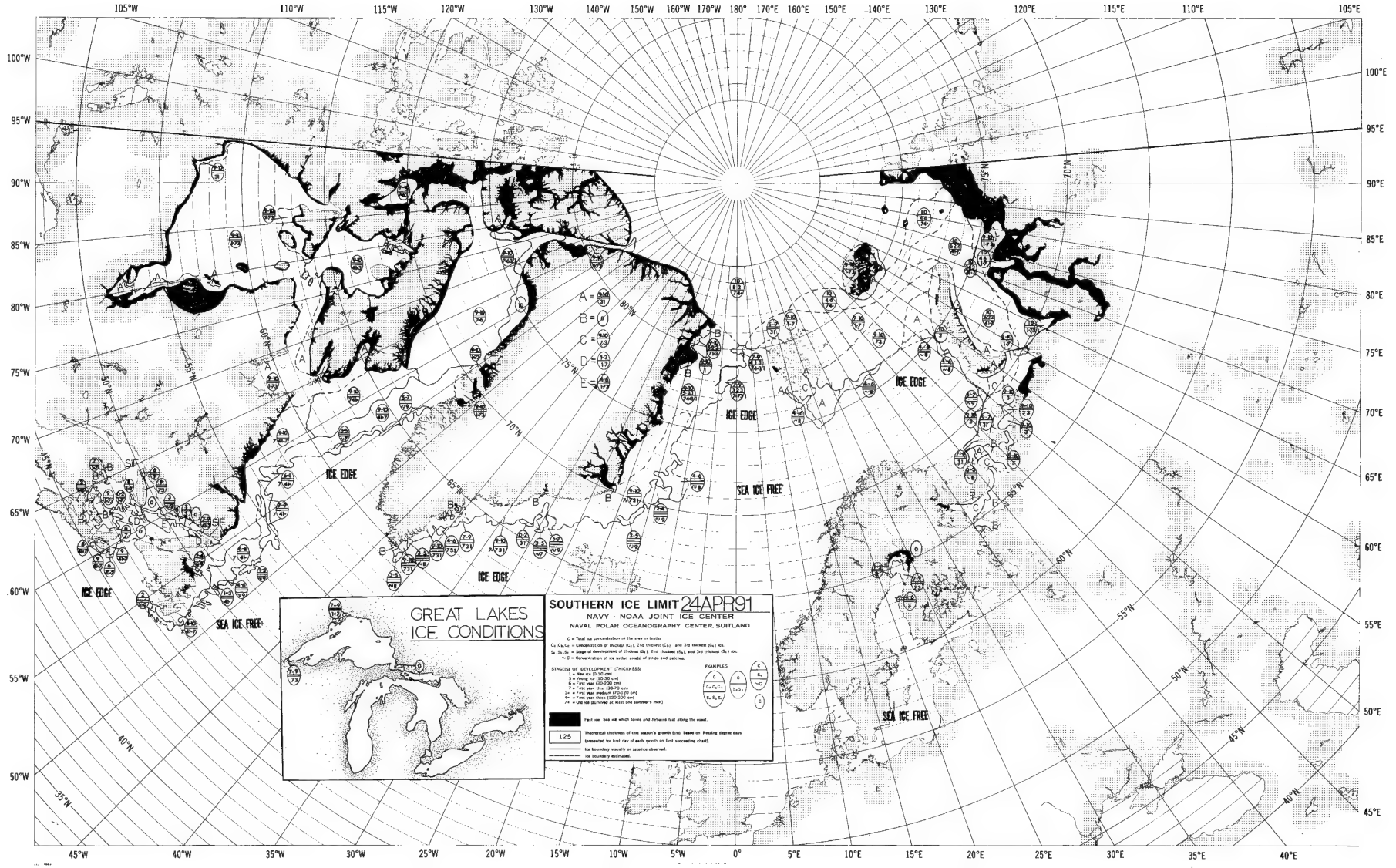
60°N
65°N
70°N
75°N
80°N
ICE EDGE
SEA ICE FREE
GREAT LAKES
ICE CONDITIONS
SOUTHERN ICE LIMIT 17 APR 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
EXAMPLES
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
2 = Young ice (10-30 cm)
3 = First year (30-100 cm)
4 = First year thin (30-70 cm)
5 = First year medium (70-120 cm)
6 = First year thick (120-200 cm)
7 = Old ice (survived at least one summer's melt)
First ice Sea ice which forms and remains fast along the coast
125
Theoretical thickness of this season's growth (cm), based on freezing degree days summarized for first day of each month on final succeeding chart.
Ice boundary visually or satellite observed
Ice boundary estimated.


105°W
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60°E
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45°W
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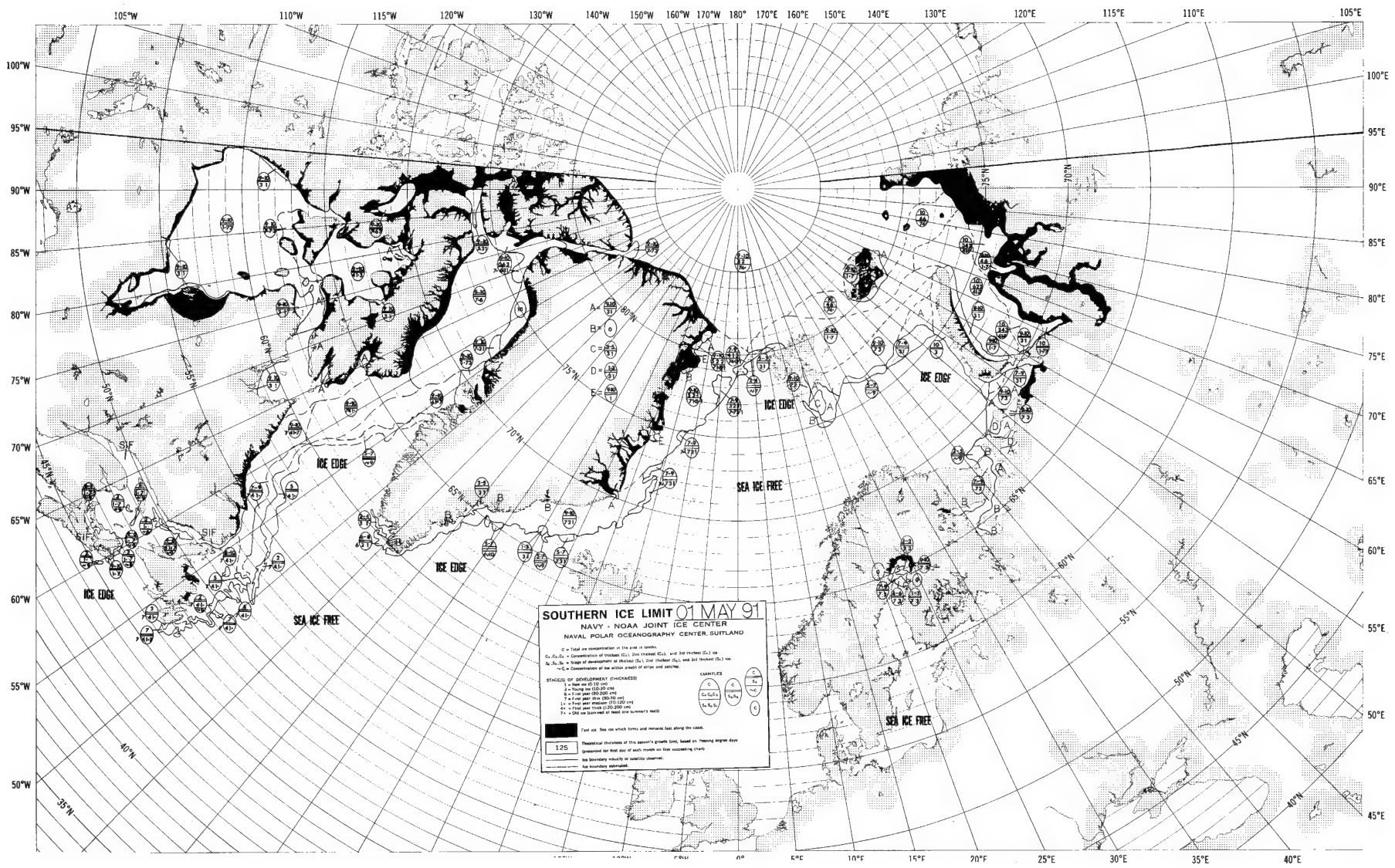
40°E
ICE EDGE
SEA ICE FREE
GREAT LAKES
ICE CONDITIONS
SOUTHERN ICE LIMIT 24APR91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
EXAMPLES
Fast ice. Sea ice which forms and remains fast along the coast.
Ice boundary visually or satellite observed.
Ice boundary estimated.


SOUTHERN ICE LIMIT 01 MAY 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE EDGE
SEA ICE FREE
SIF
105°W
110°W
115°W
120°W
130°W
140°W
150°W
160°W
170°W
180°
170°E
160°E
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120°E
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95°E
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40°N
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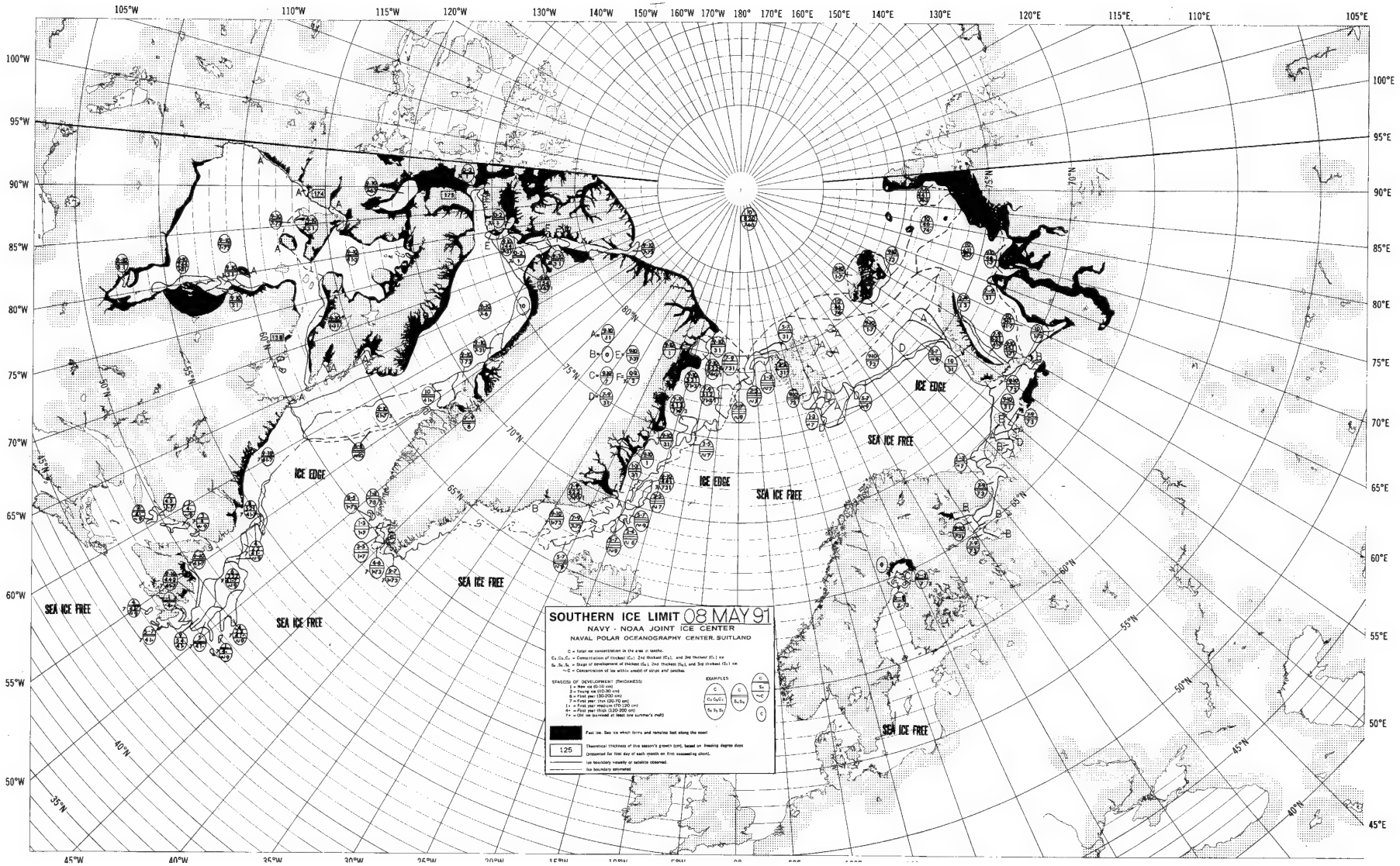
105°W
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160°E
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70°W
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55°W
50°W
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90°E
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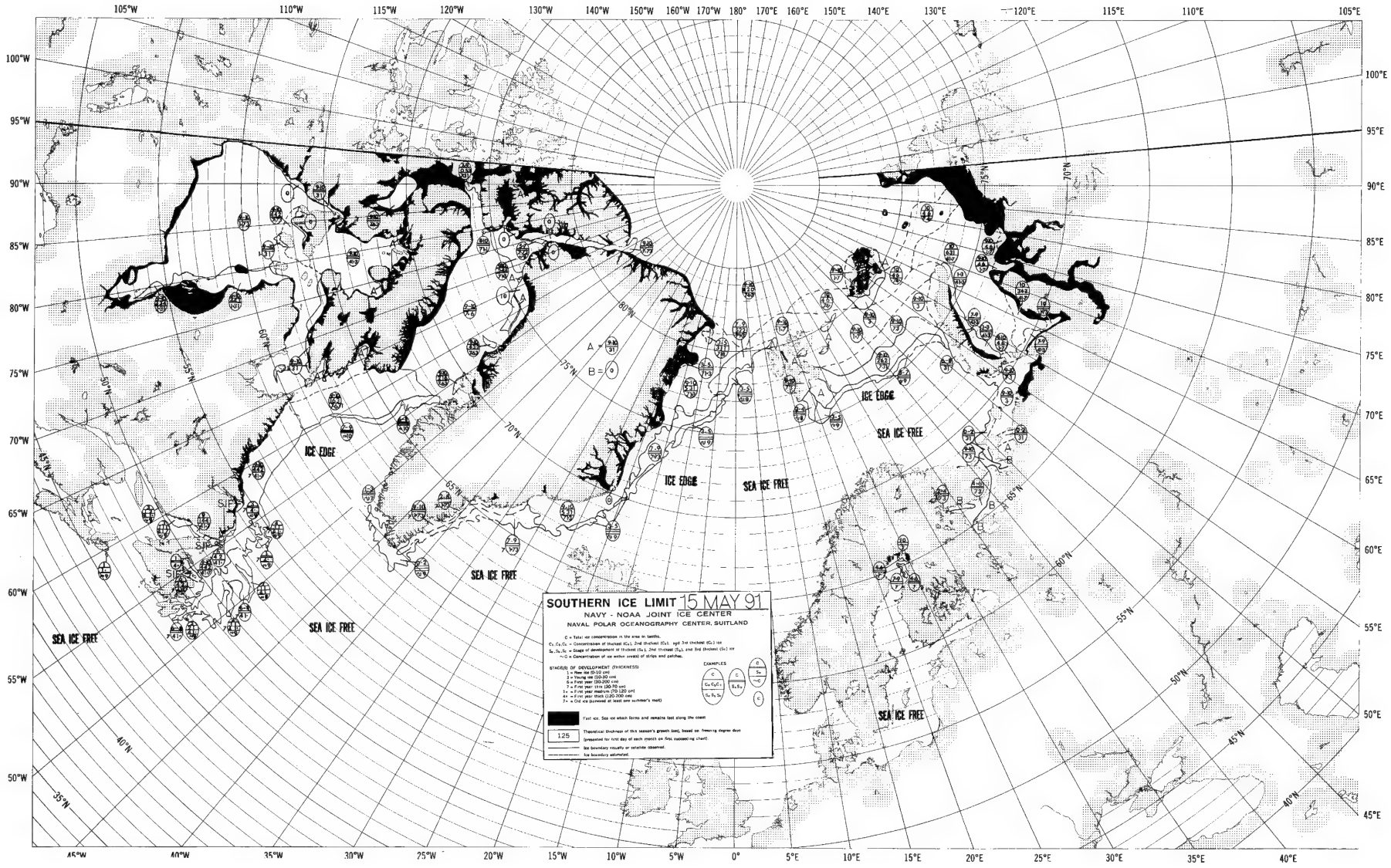
80°E
75°E
70°E
65°E
60°E
55°E
50°E
45°E
40°W
35°W
45°W
ICE EDGE
SEA ICE FREE
SOUTHERN ICE LIMIT 08 MAY 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
STAGES OF DEVELOPMENT (THICKNESS)
EXAMPLES
Fast ice. Sea ice which forms and remains fast along the coast
125
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
ice boundary reliably or accurately observed.
ice boundary estimated.


SOUTHERN ICE LIMIT 15 MAY 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE EDGE
SEA ICE FREE
105°W
110°W
115°W
120°W
130°W
140°W
150°W
160°W
170°W
180°
170°E
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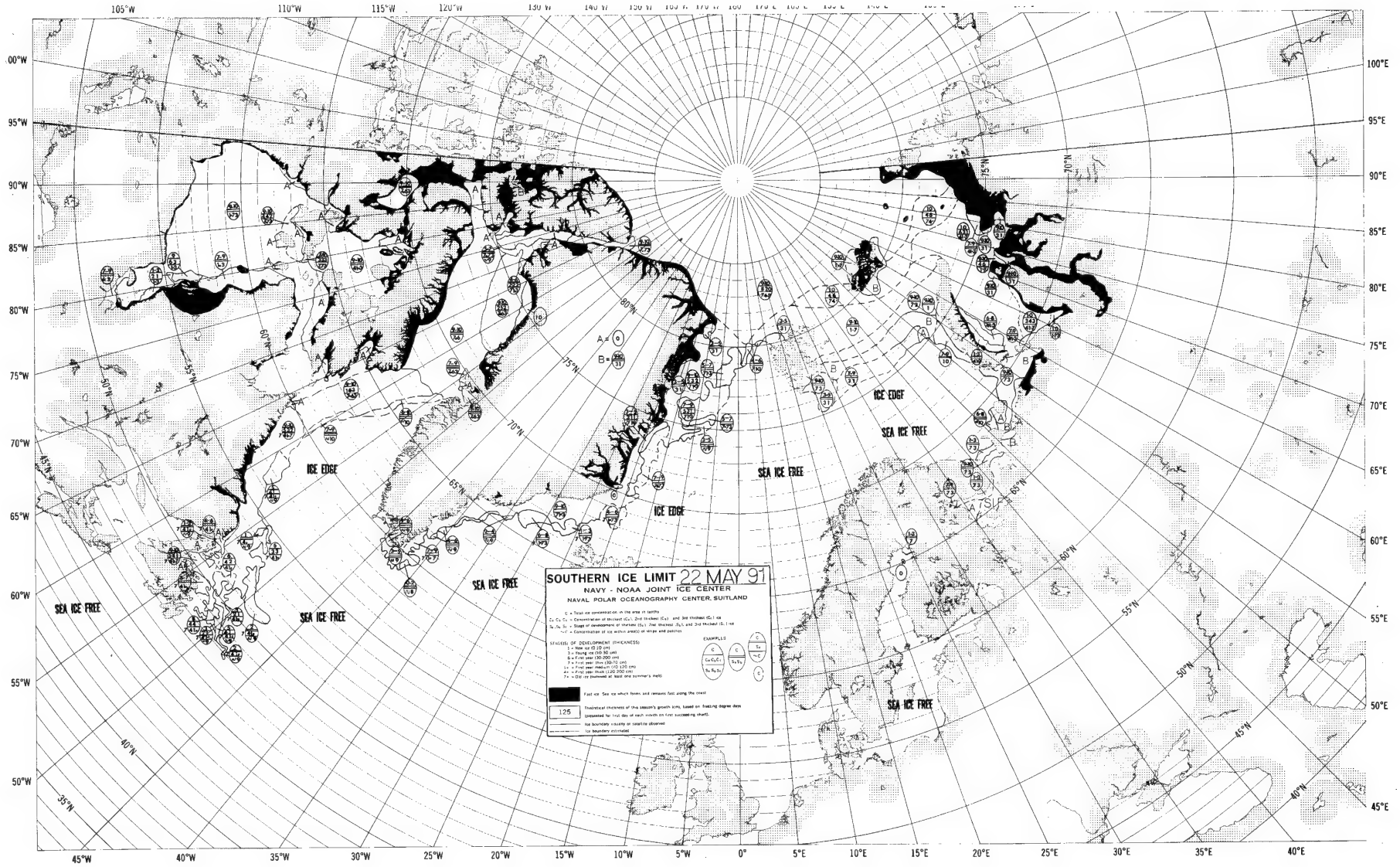
SOUTHERN ICE LIMIT 22 MAY 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE EDGE
SEA ICE FREE
105°W
110°W
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120°W
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
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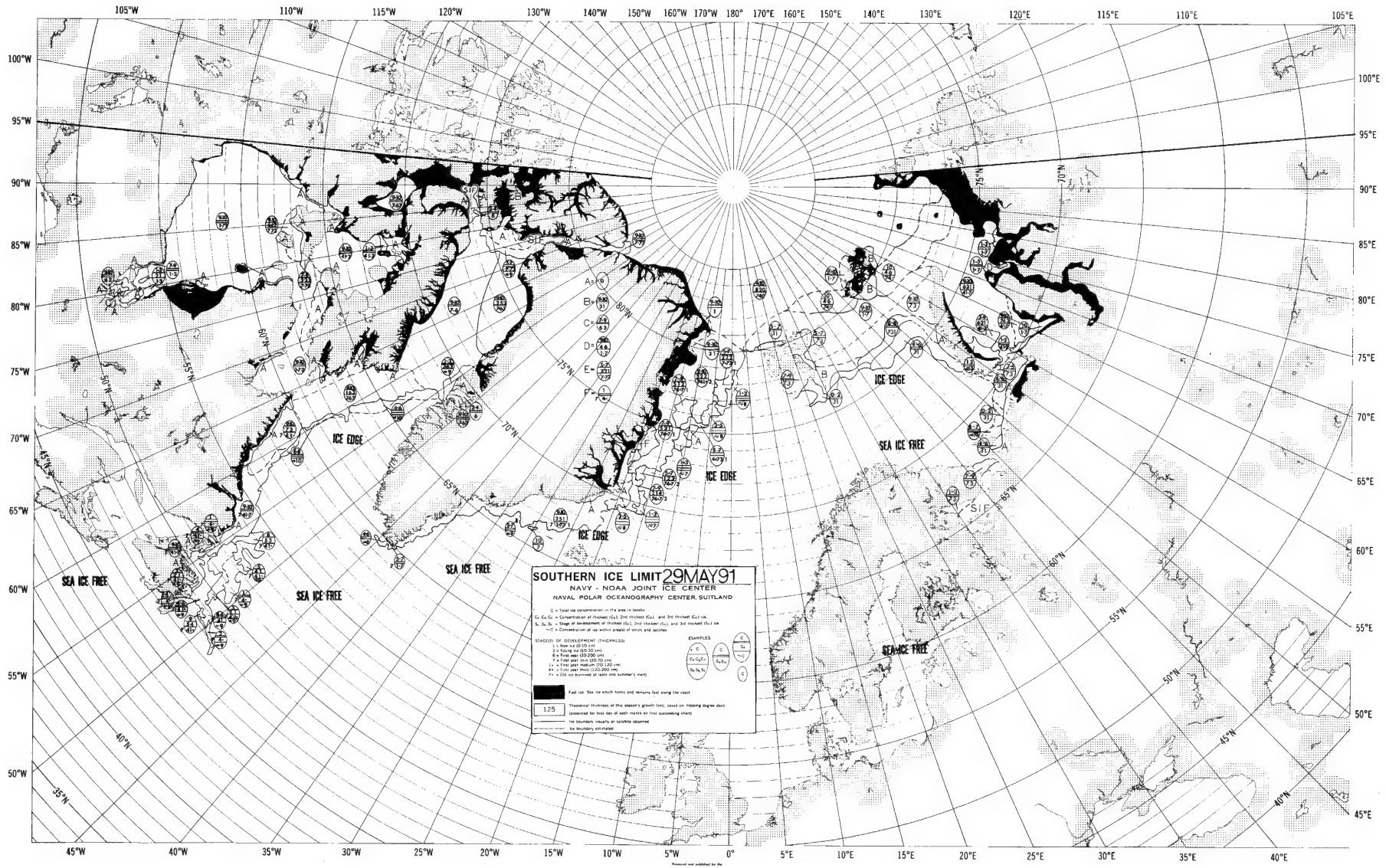
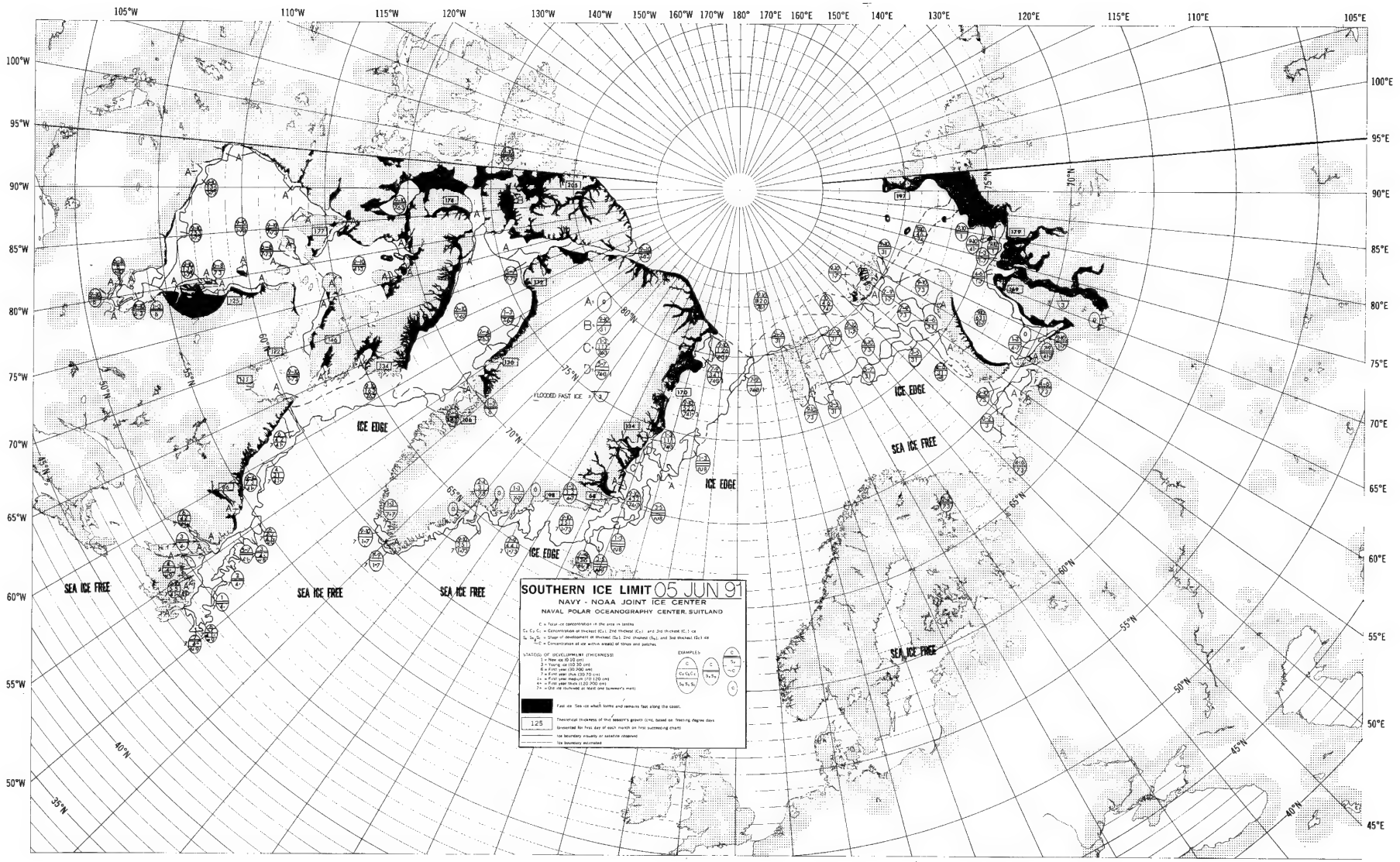
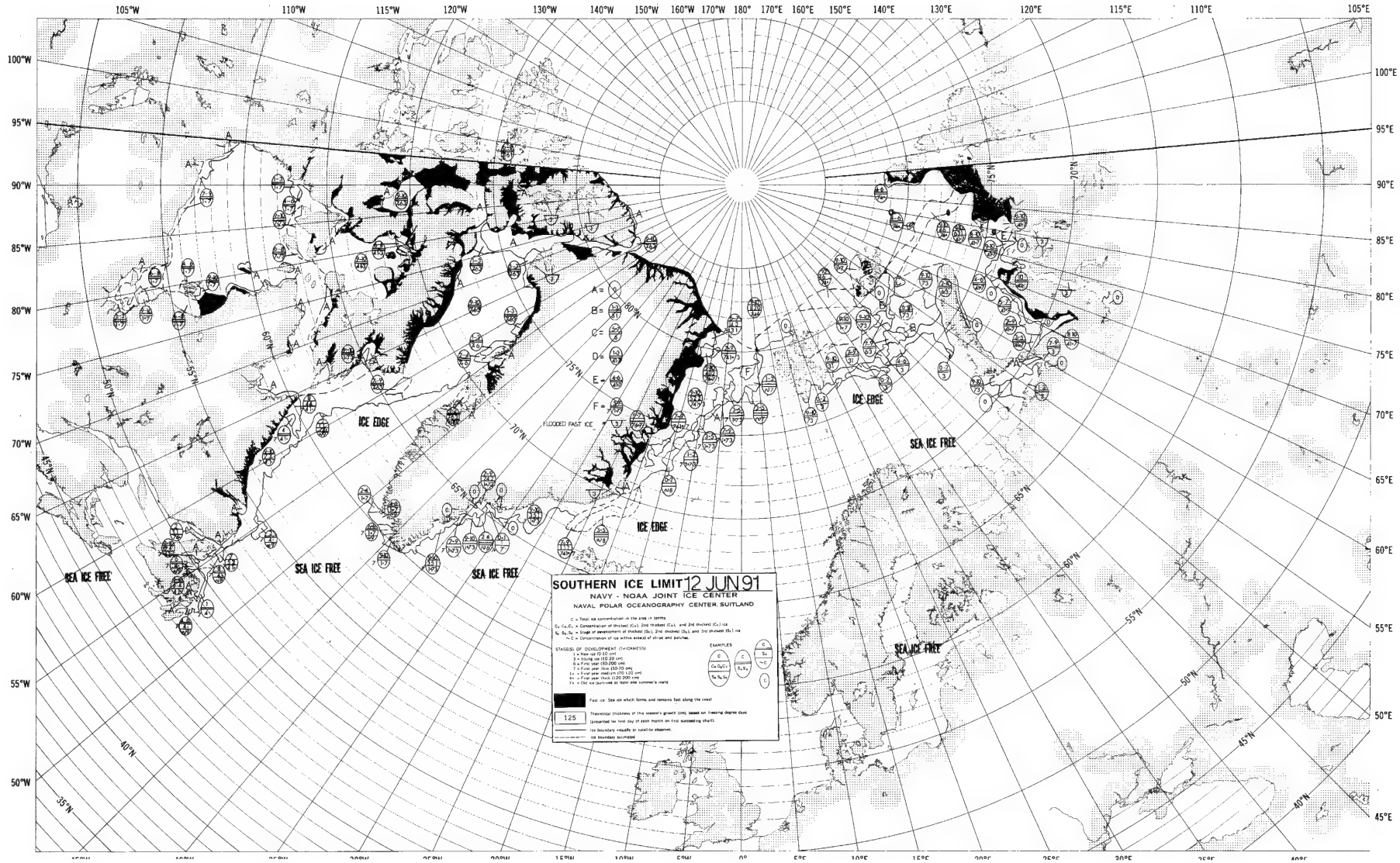
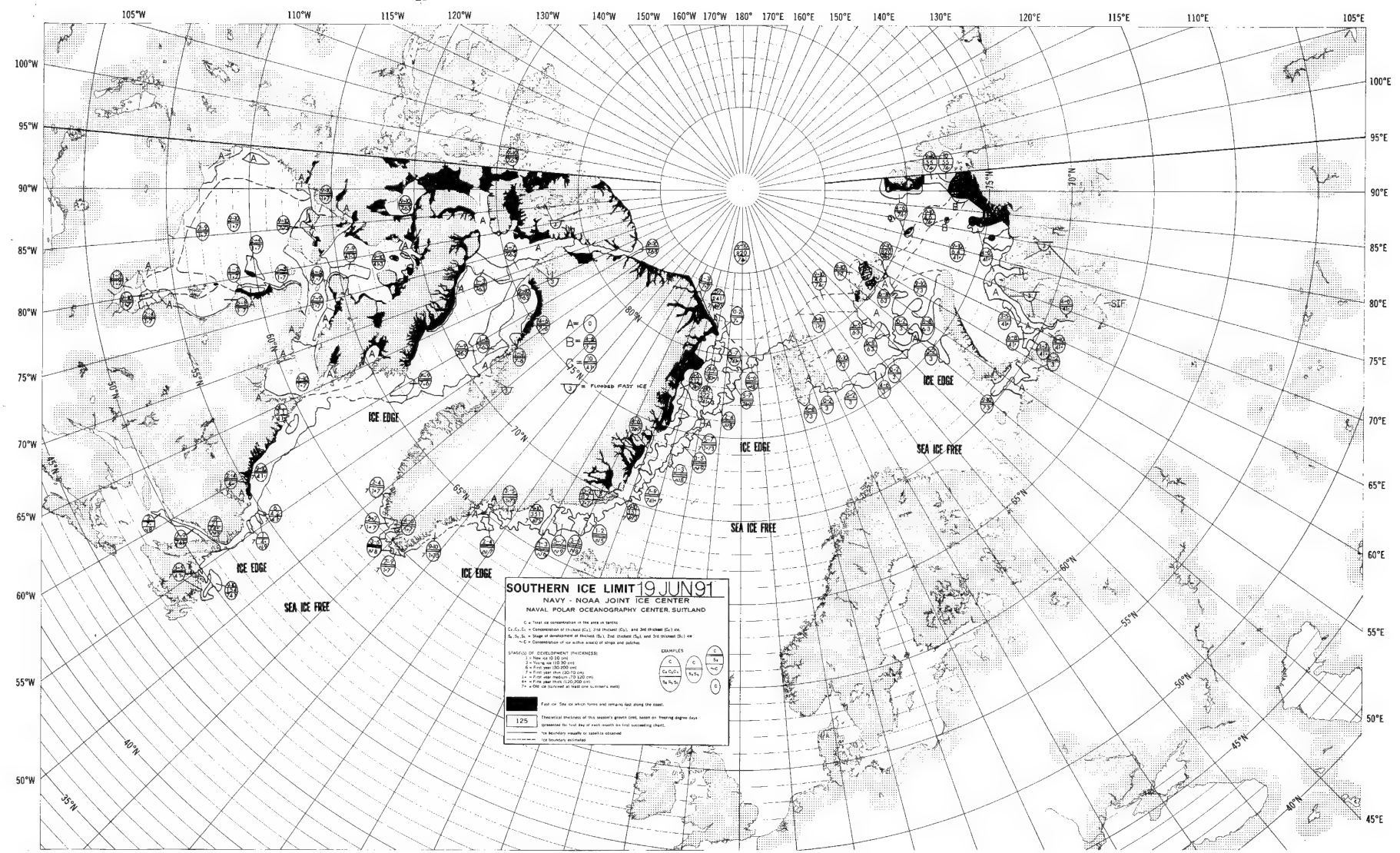
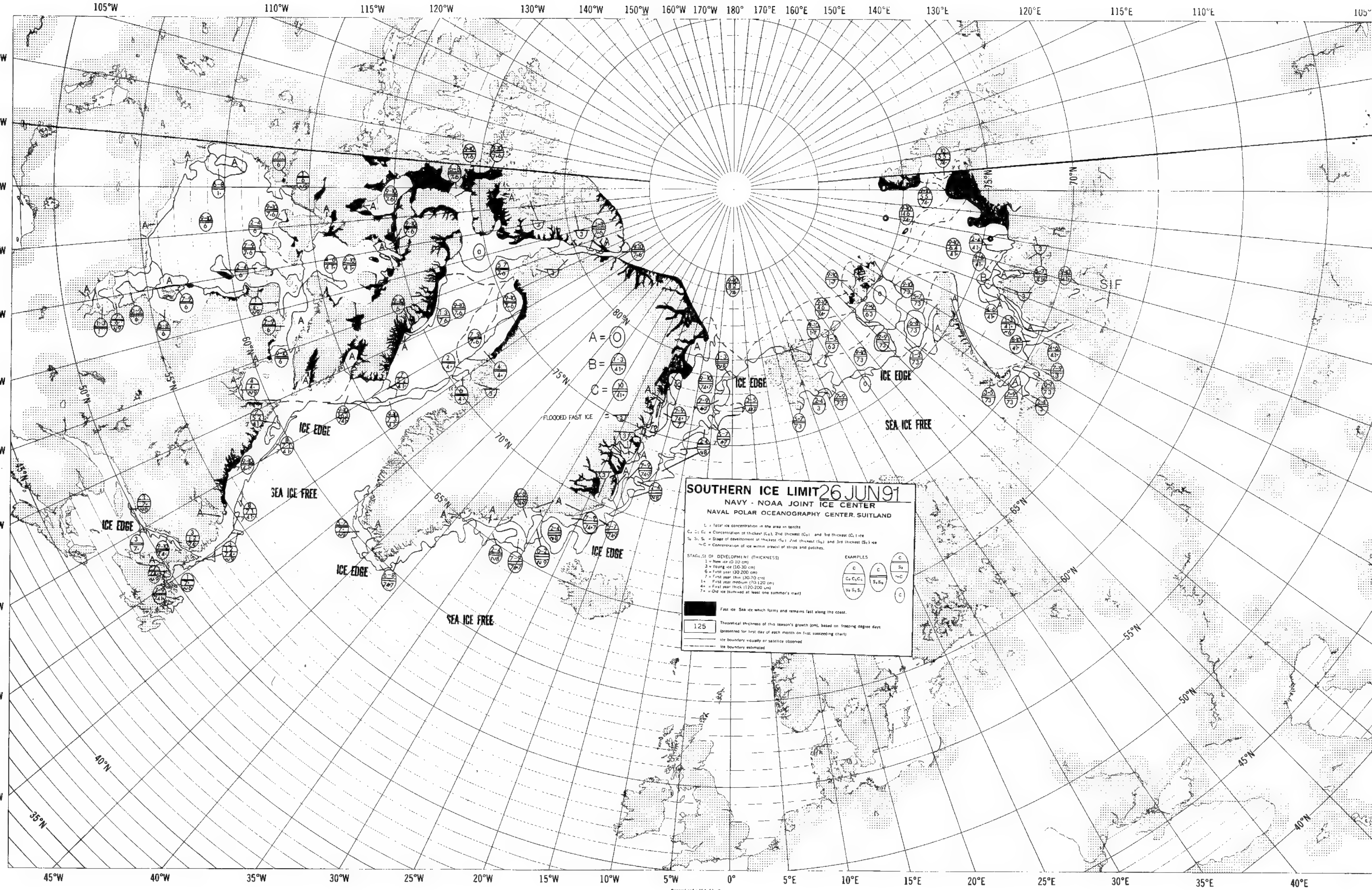
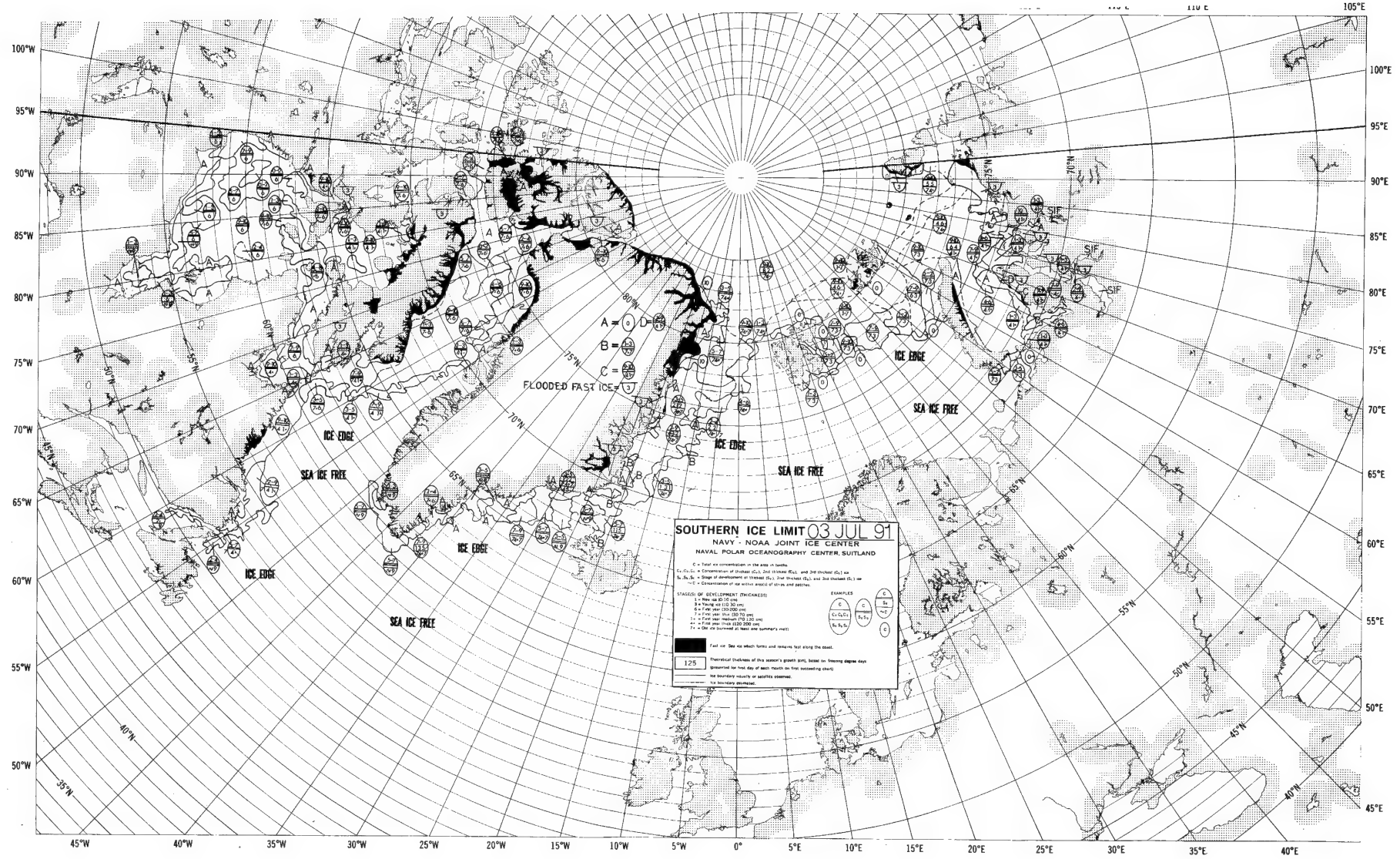

SOUTHERN ICE LIMIT 29MAY91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE EDGE
SEA ICE FREE
105°W
110°W
115°W
120°W
130°W
140°W
150°W
160°W
170°W
180°
170°E
160°E
150°E
140°E
130°E
120°E
115°E
110°E
105°E
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
50°W
100°E
95°E
90°E
85°E
80°E
75°E
70°E
65°E
60°E
55°E
50°E
45°W
40°W
35°W
30°W
25°W
20°W
15°W
10°W
5°W
0°
5°E
10°E
15°E
20°E
25°E
30°E
35°E
40°E
45°E
80°N
75°N
70°N
65°N
60°N
55°N
50°N
45°N
40°N
35°N

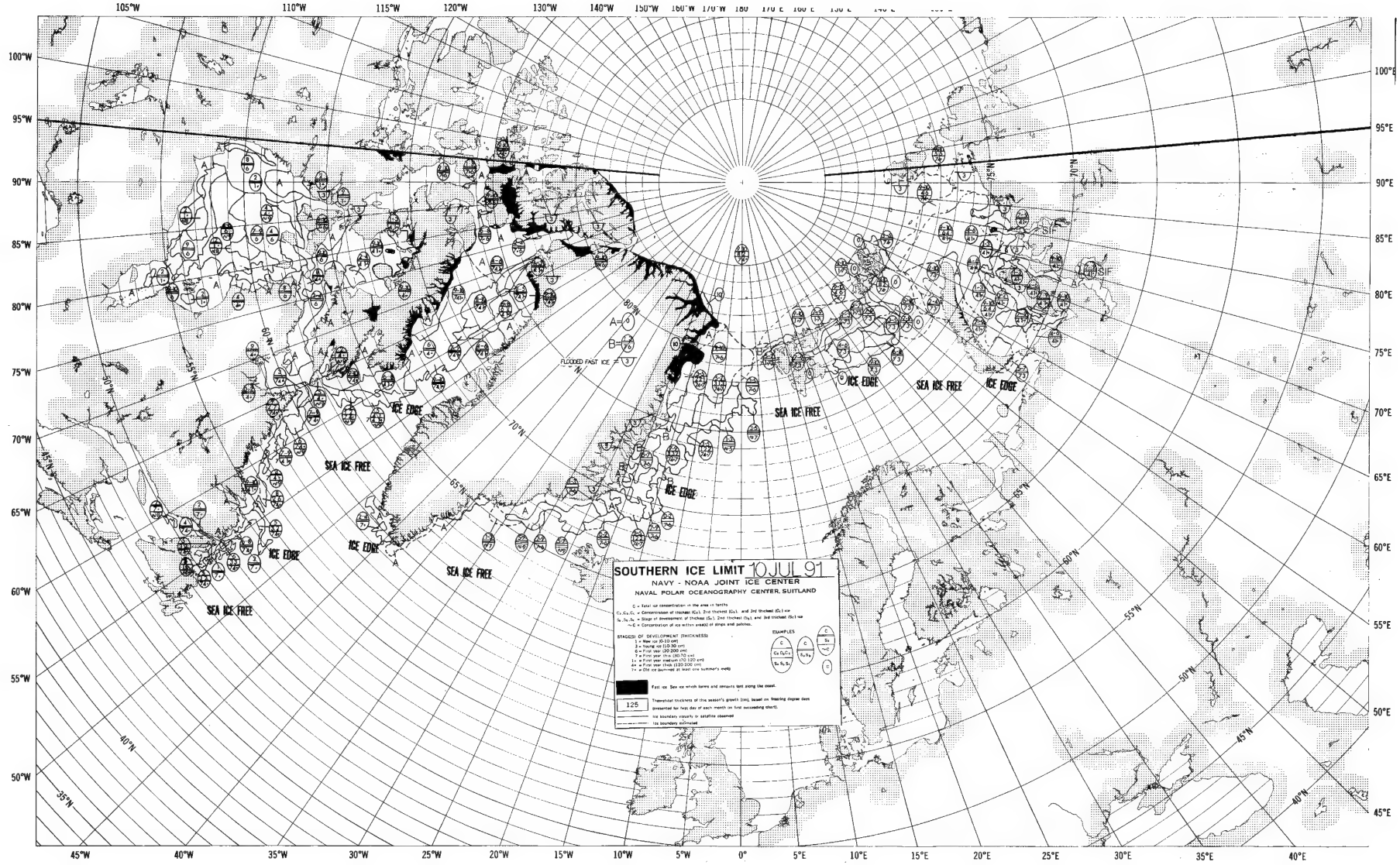

SOUTHERN ICE LIMIT 05 JUN 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE EDGE
SEA ICE FREE
FLOODED FAST ICE
105°W
110°W
115°W
120°W
130°W
140°W
150°W
160°W
170°W
180°
170°E
160°E
150°E
140°E
130°E
120°E
115°E
110°E
105°E
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
50°W
100°E
95°E
90°E
85°E
80°E
75°E
70°E
65°E
60°E
55°E
50°E
45°E
40°N
35°N
45°N
50°N
55°N
60°N
65°N
70°N
75°N
80°N

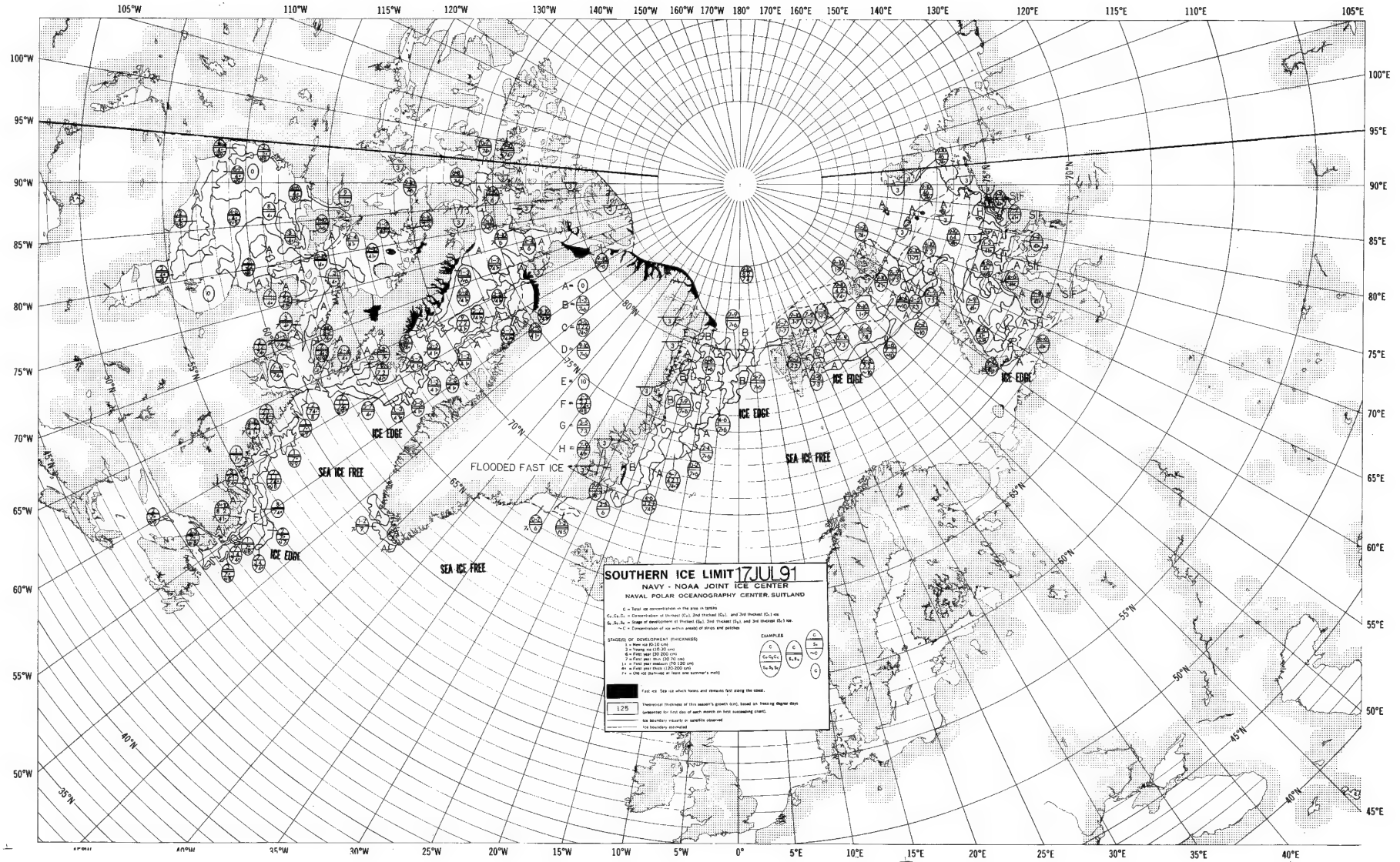

SOUTHERN ICE LIMIT 12 JUN 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE EDGE
SEA ICE FREE
FLOODED FAST ICE
105°W
110°W
115°W
120°W
130°W
140°W
150°W
160°W
170°W
180°
170°E
160°E
150°E
140°E
130°E
120°E
115°E
110°E
105°E
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
50°W
100°E
95°E
90°E
85°E
80°E
75°E
70°E
65°E
60°E
55°E
50°E
45°E
80°N
75°N
70°N
65°N
60°N
55°N
50°N
45°N
40°N
35°N

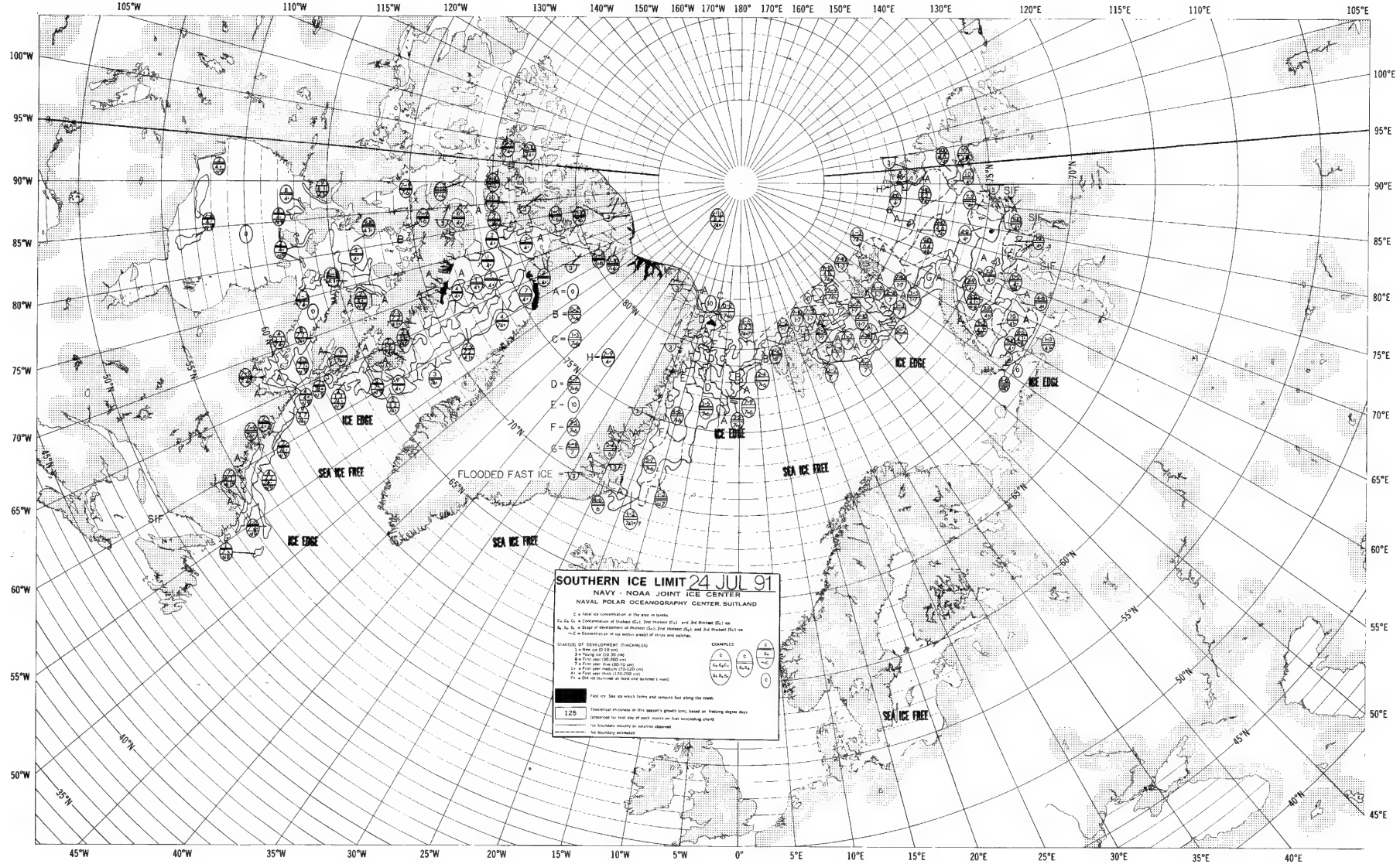

105°W
110°W
115°W
120°W
130°W
140°W
150°W
160°W
170°W
180°
170°E
160°E
150°E
140°E
130°E
120°E
115°E
110°E
105°E
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
50°W
100°E
95°E
90°E
85°E
80°E
75°E
70°E
65°E
60°E
55°E
50°E
45°E
ICE EDGE
SEA ICE FREE
SOUTHERN ICE LIMIT 19 JUN 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
Fast ice. Sea ice which forms and remains fast along the coast.
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary mostly or satellite observed
Ice boundary estimated

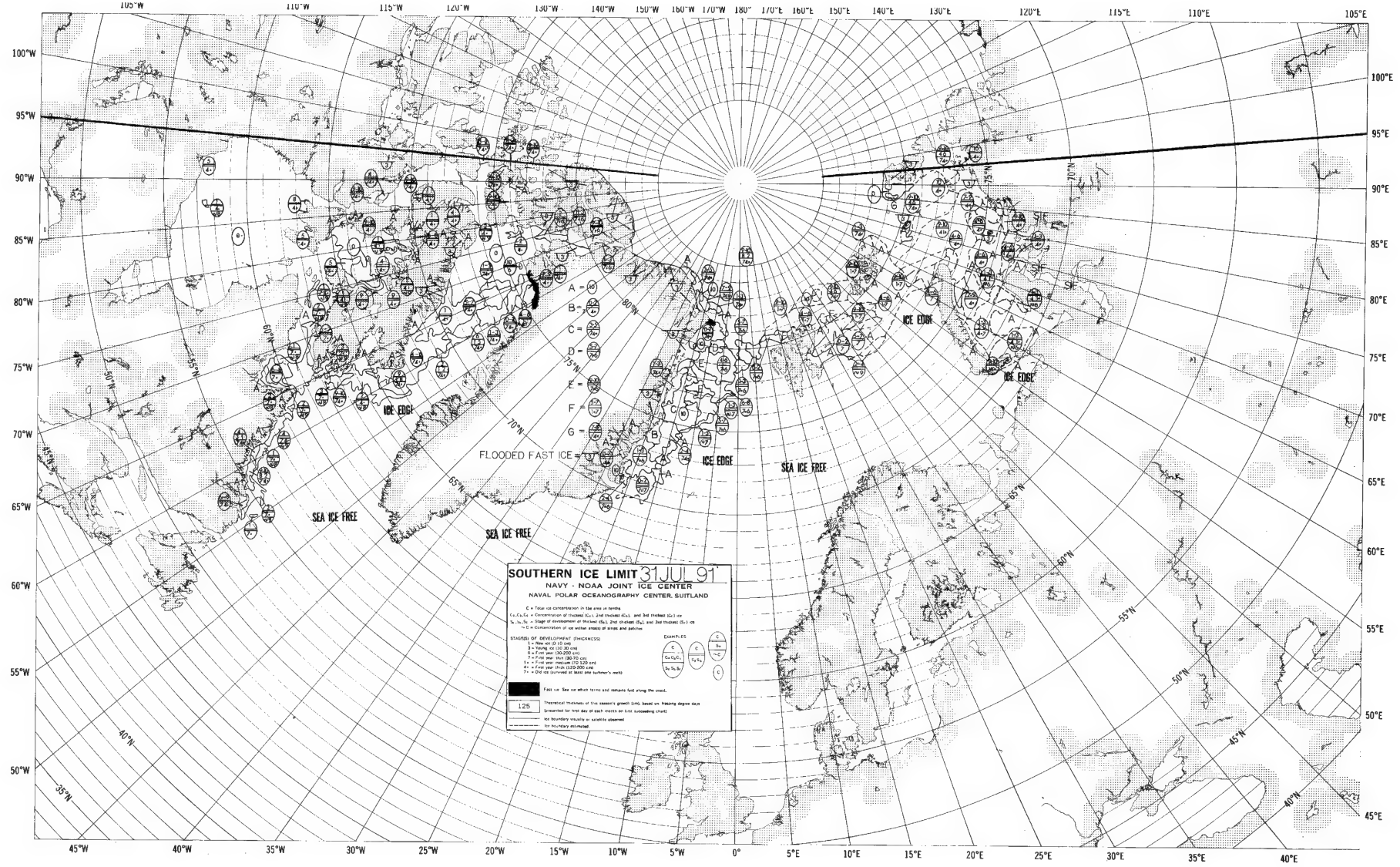

SOUTHERN ICE LIMIT 26 JUN 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
C = Total ice concentration in the area in tenths
Ca Cb Cc = Concentration of thickest (Ca), 2nd thickest (Cb) and 3rd thickest (Cc) ice
Sa Sb Sc = Stage of development of thickest (Sa), 2nd thickest (Sb) and 3rd thickest (Sc) ice
~C = Concentration of ice within area(s) of strips and patches.
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
6 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1• = First year medium (70-120 cm)
4• = First year thick (120-200 cm)
7• = Old ice (survived at least one summer's melt)
EXAMPLES
Fast ice. Sea ice which forms and remains fast along the coast.
125
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart)
ice boundary visually or satellite observed
ice boundary estimated
ICE EDGE
SEA ICE FREE
FLOODED FAST ICE
A =
B =
C =
SIF
105°W
110°W
115°W
120°W
130°W
140°W
150°W
160°W
170°W
180°
170°E
160°E
150°E
140°E
130°E
120°E
115°E
110°E
105°E
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
50°W
100°E
95°E
90°E
85°E
80°E
75°E
70°E
65°E
60°E
55°E
50°E
45°E
45°W
40°W
35°W
30°W
25°W
20°W
15°W
10°W
5°W
0°
5°E
10°E
15°E
20°E
25°E
30°E
35°E
40°E
80°N
75°N
70°N
65°N
60°N
55°N
50°N
45°N
40°N
35°N

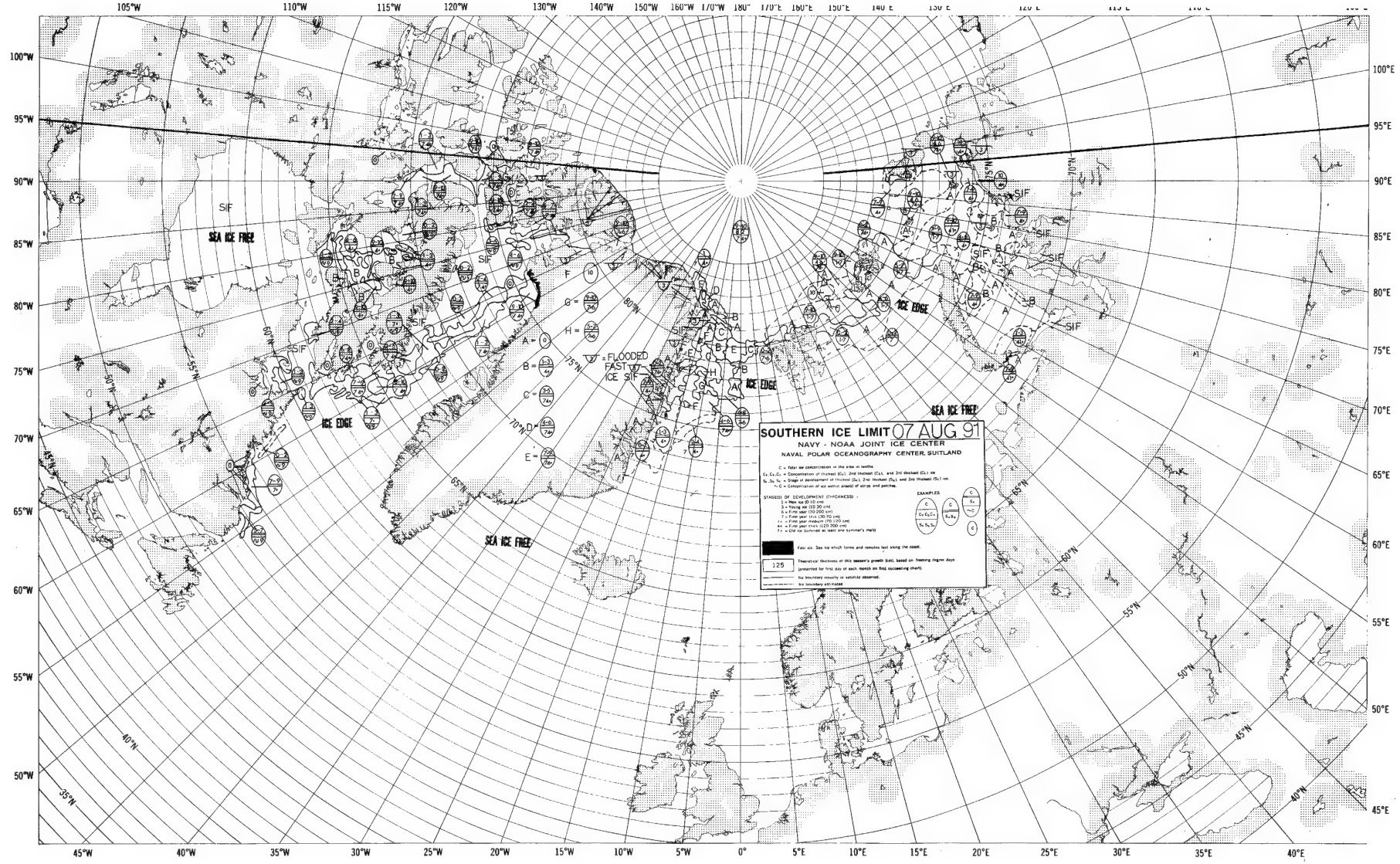

SOUTHERN ICE LIMIT 03 JUL 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
A =
B =
C =
FLOODED FAST ICE
ICE EDGE
SEA ICE FREE
SIF
STAGES OF DEVELOPMENT (THICKNESS)
EXAMPLES
Fast ice
125
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented on first day of each month on first succeeding chart)
Ice boundary reliably or satisfactorily observed.
Ice boundary estimated.

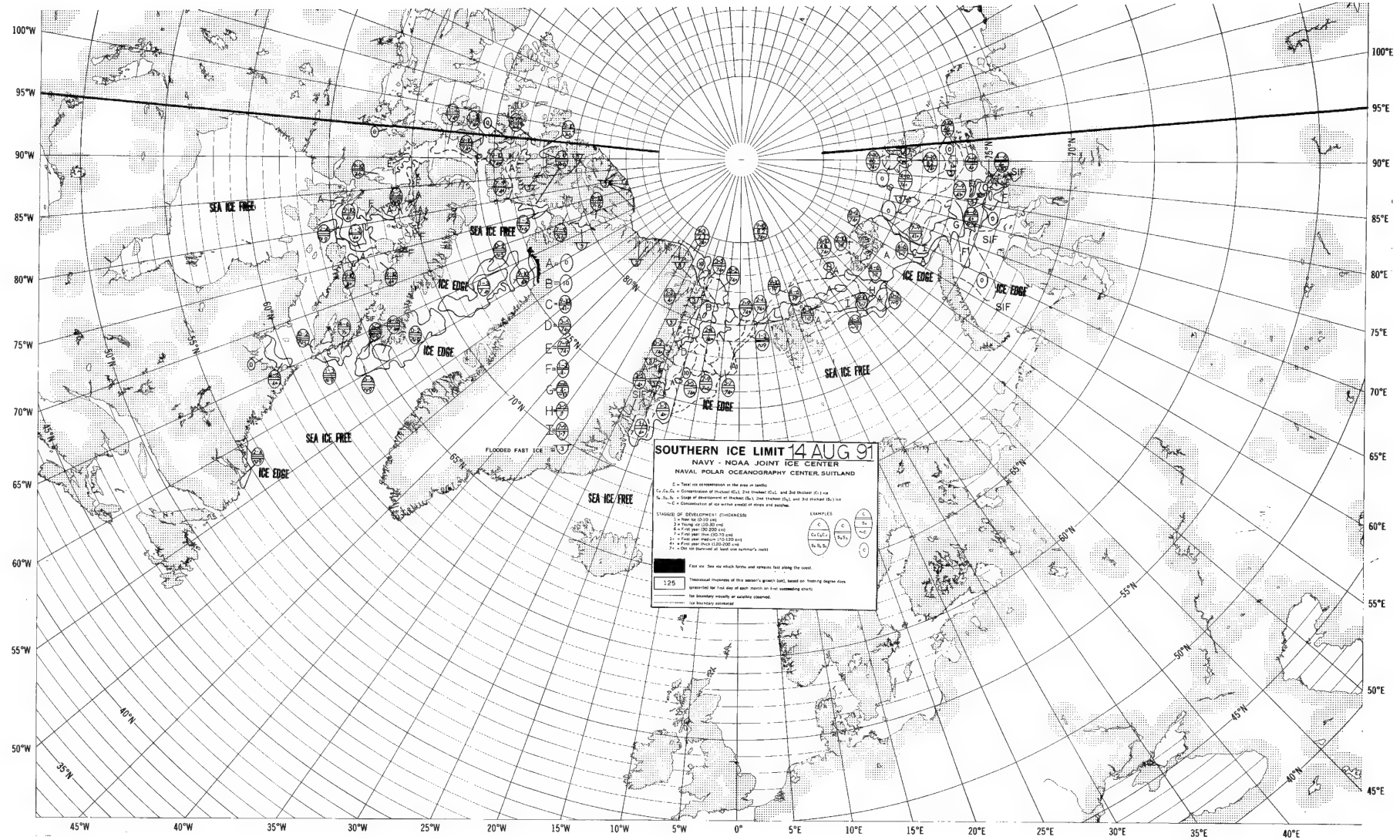

SOUTHERN ICE LIMIT 10 JUL 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
STAGES OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
2 = Young ice (10-30 cm)
3 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1= = First year medium (70-120 cm)
4= = First year thick (120-200 cm)
7+ = Old ice (survived at least one summer's melt)
EXAMPLES
Fast ice See ice which forms and remains fast along the coast.
125
Thermal thickness of the season's growth (cm), based on freezing degree days presented for first day of each month on final succeeding chart).
Ice boundary visually or satellite observed
Ice boundary estimated
FLOODED FAST ICE
ICE EDGE
SEA ICE FREE
105°W
110°W
115°W
120°W
130°W
140°W
150°W
160°W
170°W
180
170°E
160°E
150°E
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
50°W
45°W
40°W
35°W
30°W
25°W
20°W
15°W
10°W
5°W
0°
5°E
10°E
15°E
20°E
25°E
30°E
35°E
40°E
45°E
50°E
55°E
60°E
65°E
70°E
75°E
80°E
85°E
90°E
95°E
100°E
80°N
70°N
60°N
55°N
50°N
45°N
40°N
35°N

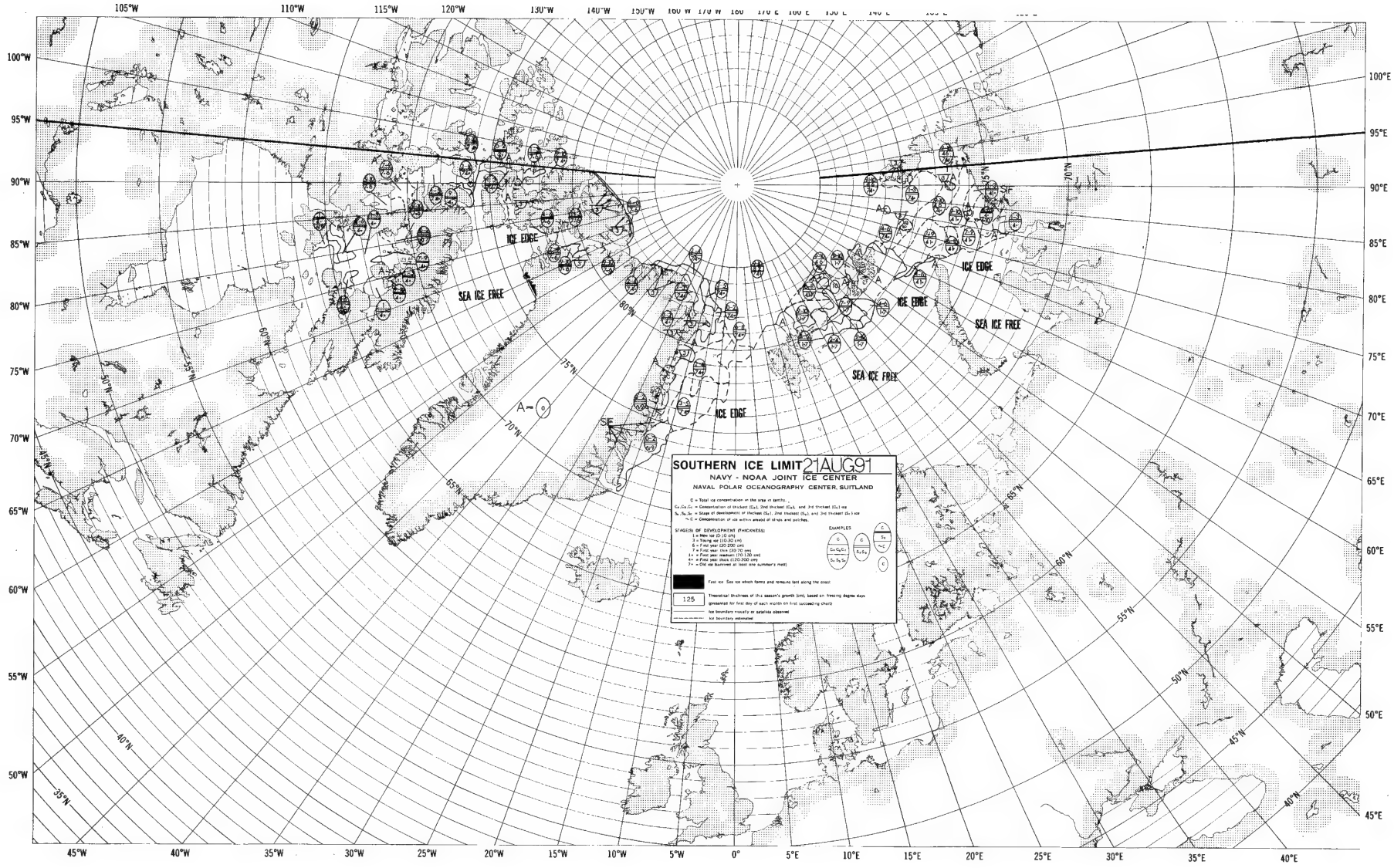

SOUTHERN ICE LIMIT 17JUL91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE EDGE
SEA ICE FREE
FLOODED FAST ICE
SIF
105°W
110°W
115°W
120°W
130°W
140°W
150°W
160°W
170°W
180°
170°E
160°E
150°E
140°E
130°E
120°E
115°E
110°E
105°E
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
50°W
100°E
95°E
90°E
85°E
80°E
75°E
70°E
65°E
60°E
55°E
50°E
45°E
40°W
35°W
30°W
25°W
20°W
15°W
10°W
5°W
0°
5°E
10°E
15°E
20°E
25°E
30°E
35°E
40°E

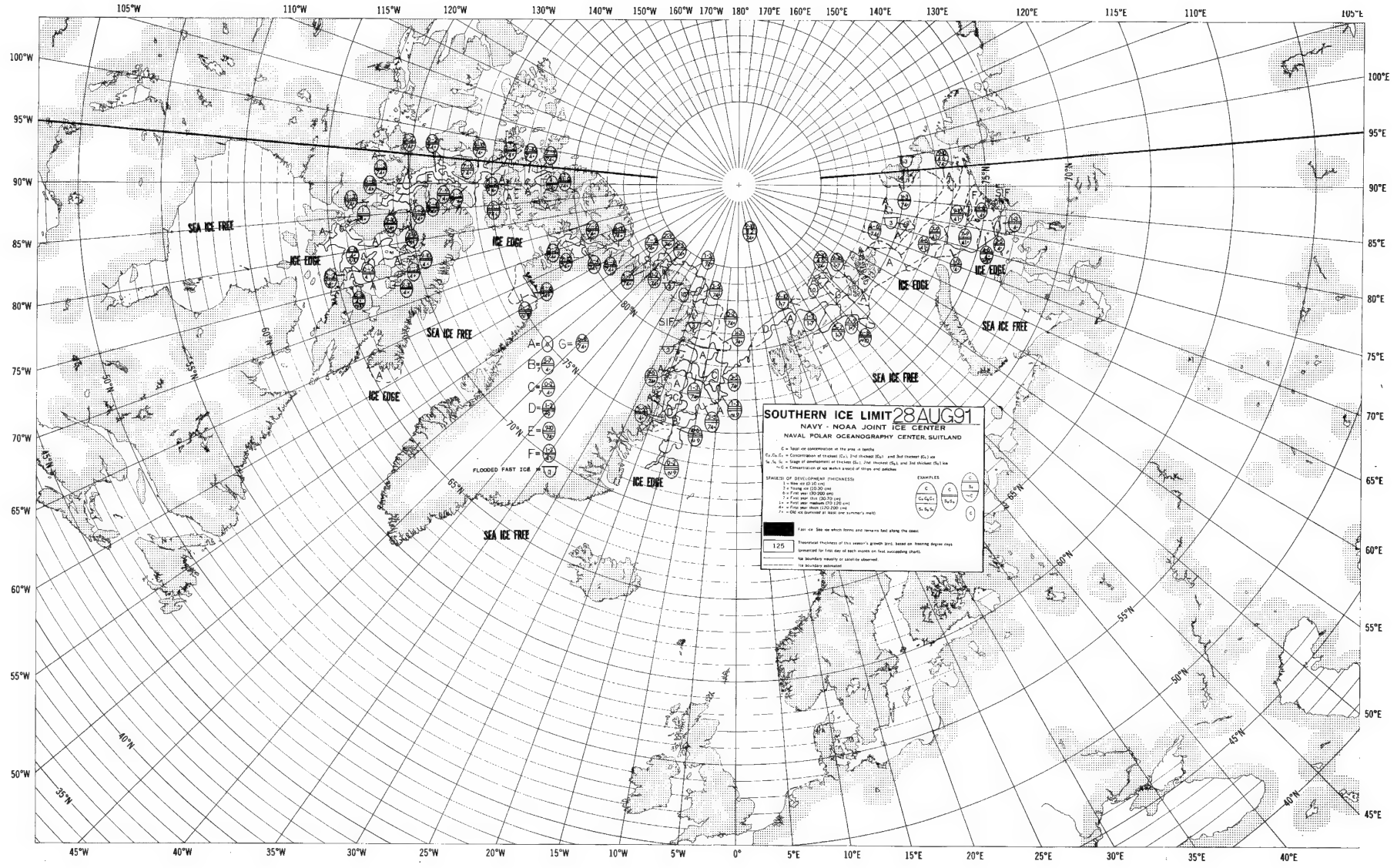

SOUTHERN ICE LIMIT 24 JUL 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE EDGE
SEA ICE FREE
FLOODED FAST ICE
SIF
105°W
110°W
115°W
120°W
130°W
140°W
150°W
160°W
170°W
180°
170°E
160°E
150°E
140°E
130°E
120°E
115°E
110°E
105°E
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
50°W
45°W
40°W
35°W
30°W
25°W
20°W
15°W
10°W
5°W
0°
5°E
10°E
15°E
20°E
25°E
30°E
35°E
40°E
45°E
50°E
55°E
60°E
65°E
70°E
75°E
80°E
85°E
90°E
95°E
100°E
80°N
75°N
70°N
65°N
60°N
55°N
50°N
45°N
40°N
35°N


SOUTHERN ICE LIMIT 31 JUL 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE EDGE
SEA ICE FREE
FLOODED FAST ICE
A =
B =
C =
D =
E =
F =
G =


SOUTHERN ICE LIMIT 07 AUG 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SEA ICE FREE
ICE EDGE
SIF
FLOODED FAST ICE
105°W
110°W
115°W
120°W
130°W
140°W
150°W
160°W
170°W
180°
170°E
160°E
150°E
140°E
130°E
120°E
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
50°W
100°E
95°E
90°E
85°E
80°E
75°E
70°E
65°E
60°E
55°E
50°E
45°E
45°W
40°W
35°W
30°W
25°W
20°W
15°W
10°W
5°W
0°
5°E
10°E
15°E
20°E
25°E
30°E
35°E
40°E
80°N
75°N
70°N
65°N
60°N
55°N
50°N
45°N
40°N
35°N


SOUTHERN ICE LIMIT 14 AUG 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SEA ICE FREE
ICE EDGE
FLOODED FAST ICE
SIF
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
50°W
45°W
40°W
35°W
30°W
25°W
20°W
15°W
10°W
5°W
0°
5°E
10°E
15°E
20°E
25°E
30°E
35°E
40°E
45°E
50°E
55°E
60°E
65°E
70°E
75°E
80°E
85°E
90°E
95°E
100°E
80°N
70°N
60°N
55°N
50°N
45°N
40°N
35°N


SOUTHERN ICE LIMIT 21AUG91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE EDGE
SEA ICE FREE
105°W
110°W
115°W
120°W
130°W
140°W
150°W
160°W
170°W
180
170°E
160°E
150°E
140°E
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
50°W
45°W
40°W
35°W
30°W
25°W
20°W
15°W
10°W
5°W
0°
5°E
10°E
15°E
20°E
25°E
30°E
35°E
40°E
45°E
50°E
55°E
60°E
65°E
70°E
75°E
80°E
85°E
90°E
95°E
100°E


SOUTHERN ICE LIMIT 28 AUG 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SEA ICE FREE
ICE EDGE
FLOODED FAST ICE
SIF
105°W
110°W
115°W
120°W
130°W
140°W
150°W
160°W
170°W
180°
170°E
160°E
150°E
140°E
130°E
120°E
115°E
110°E
105°E
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
50°W
45°W
40°W
35°W
30°W
25°W
20°W
15°W
10°W
5°W
0°
5°E
10°E
15°E
20°E
25°E
30°E
35°E
40°E
45°E
50°E
55°E
60°E
65°E
70°E
75°E
80°E
85°E
90°E
95°E
100°E
80°N
75°N
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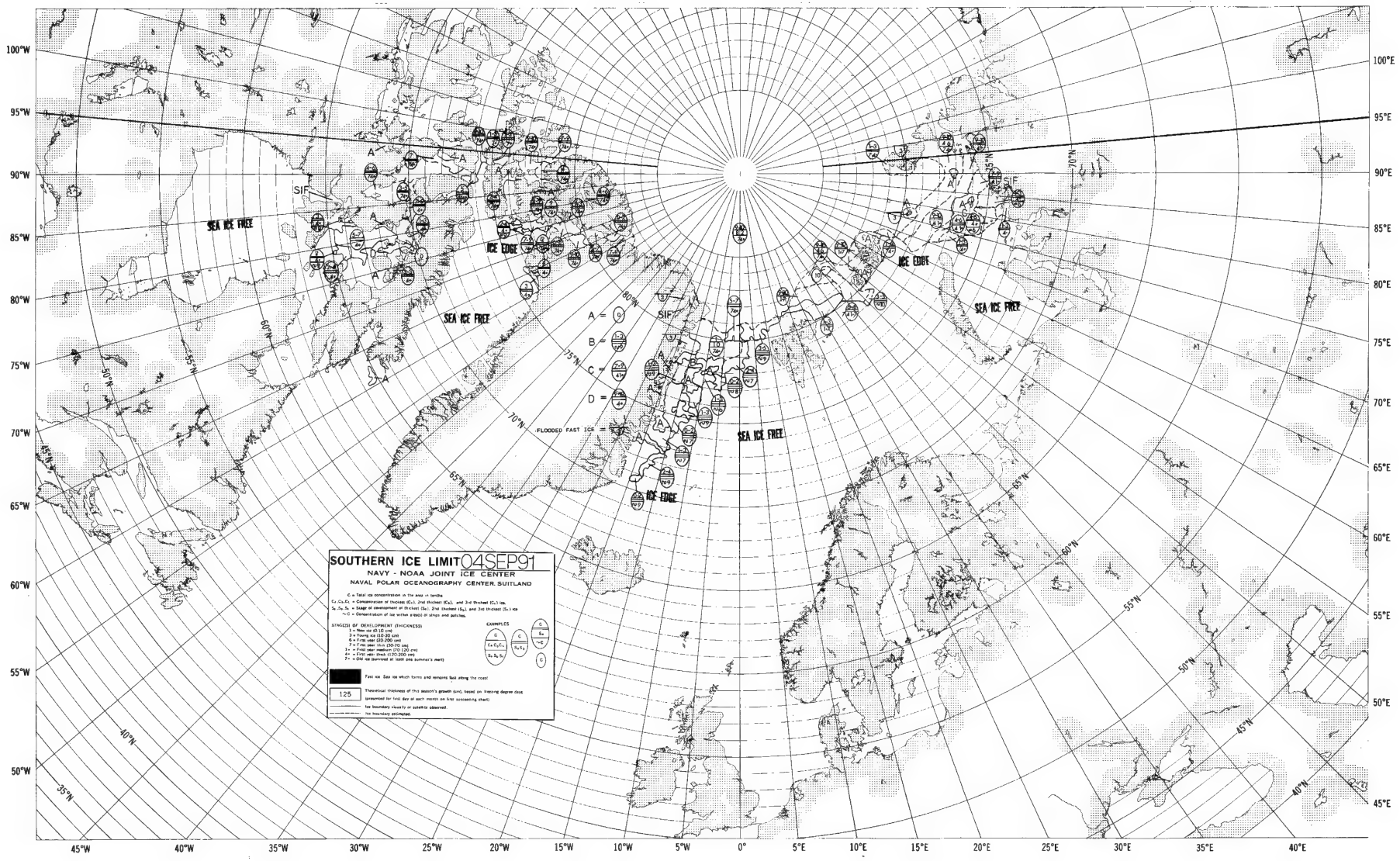
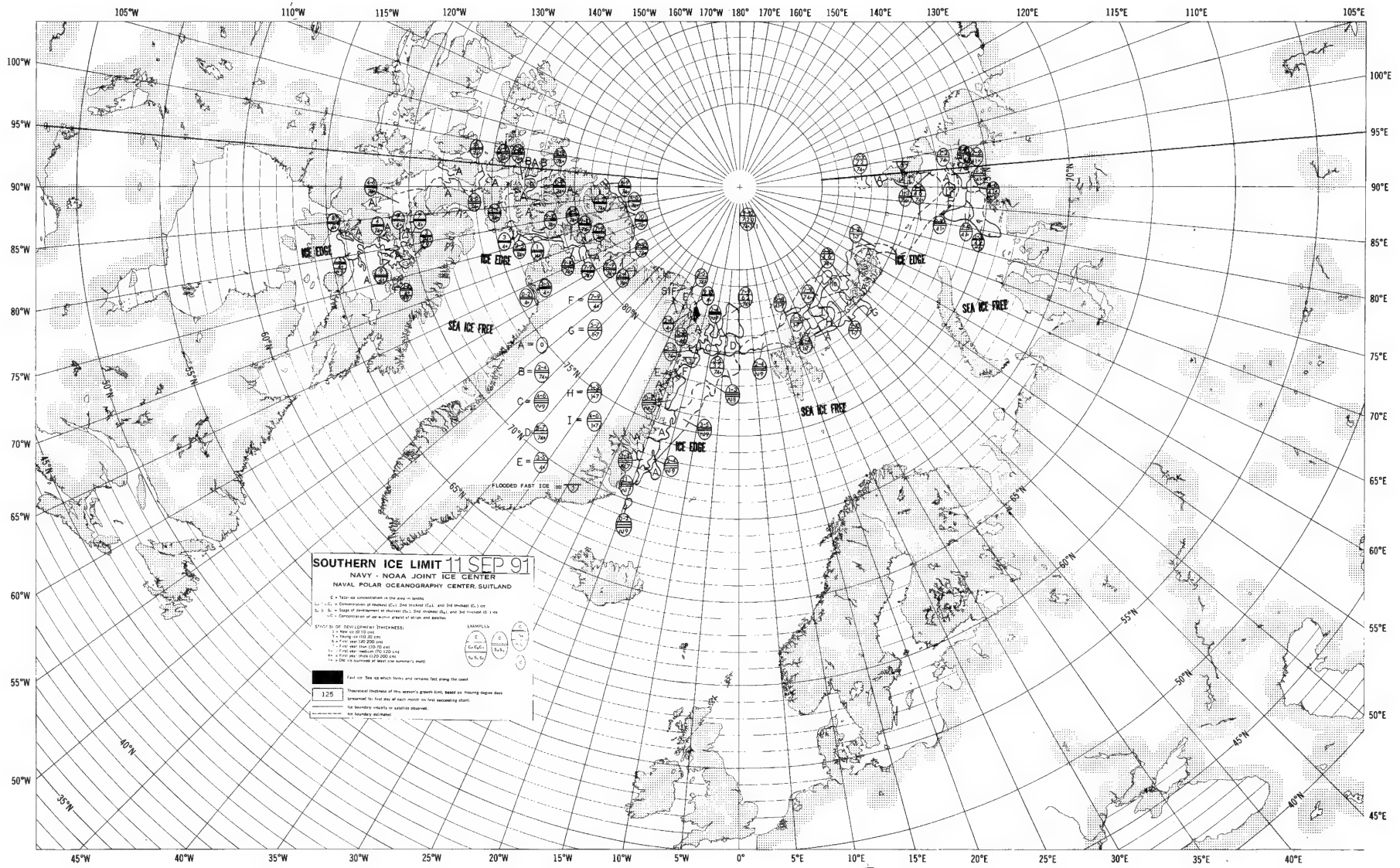
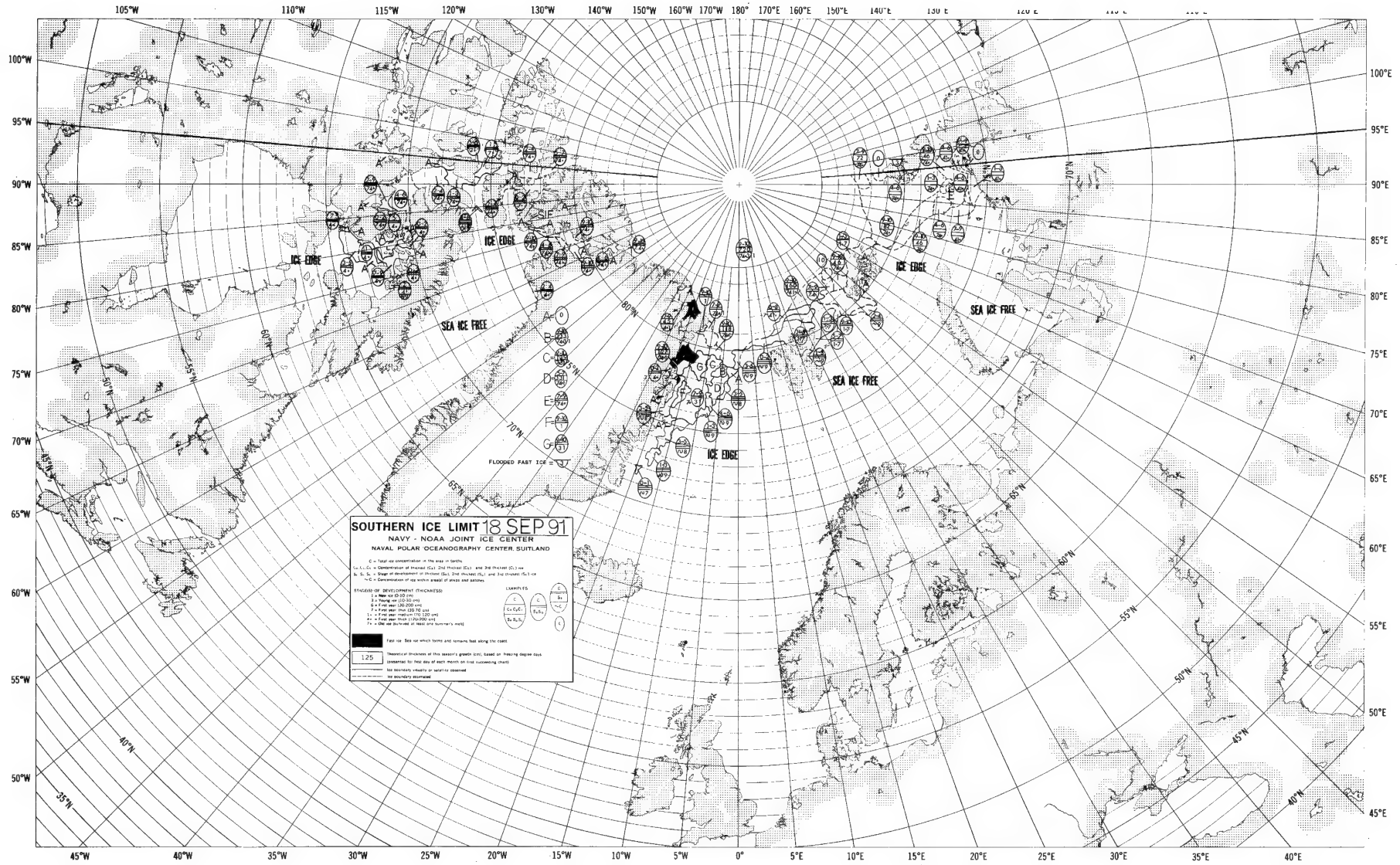
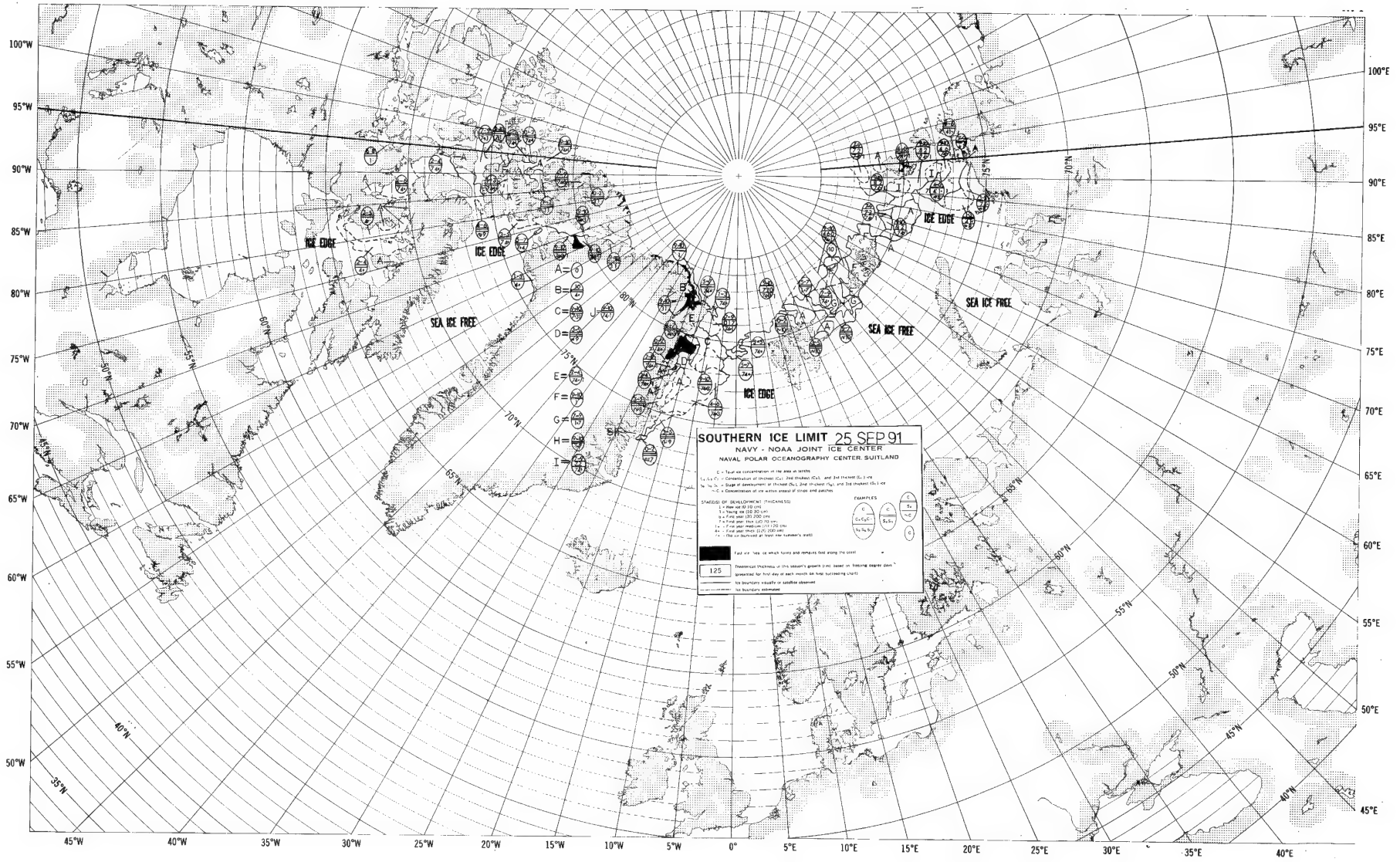
65°N
60°N
55°N
50°N
45°N
40°N
35°N


SOUTHERN ICE LIMIT 04SEP91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER SUITLAND
SEA ICE FREE
ICE EDGE
SIF
FLOODED FAST ICE
A =
B =
C =
D =
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
50°W
45°W
40°W
35°W
30°W
25°W
20°W
15°W
10°W
5°W
0°
5°E
10°E
15°E
20°E
25°E
30°E
35°E
40°E
45°E
50°E
55°E
60°E
65°E
70°E
75°E
80°E
85°E
90°E
95°E
100°E


SOUTHERN ICE LIMIT 11 SEP 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE EDGE
SEA ICE FREE
FLOODED FAST ICE
105°W
110°W
115°W
120°W
130°W
140°W
150°W
160°W
170°W
180°
170°E
160°E
150°E
140°E
130°E
120°E
115°E
110°E
105°E
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
50°W
45°W
40°W
35°W
30°W
25°W
20°W
15°W
10°W
5°W
0°
5°E
10°E
15°E
20°E
25°E
30°E
35°E
40°E
45°E
50°E
55°E
60°E
65°E
70°E
75°E
80°E
85°E
90°E
95°E
100°E
80°N
75°N
70°N
65°N
60°N
55°N
50°N
45°N
40°N
35°N


SOUTHERN ICE LIMIT 18 SEP 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE EDGE
SEA ICE FREE
FLOODED FAST ICE
105°W
110°W
115°W
120°W
130°W
140°W
150°W
160°W
170°W
180°
170°E
160°E
150°E
140°E
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
50°W
100°E
95°E
90°E
85°E
80°E
75°E
70°E
65°E
60°E
55°E
50°E
45°E
45°W
40°W
35°W
30°W
25°W
20°W
15°W
10°W
5°W
0°
5°E
10°E
15°E
20°E
25°E
30°E
35°E
40°E


SOUTHERN ICE LIMIT 25 SEP 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER SUITLAND
ICE EDGE
SEA ICE FREE
A=
B=
C=
D=
E=
F=
G=
H=
I=
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
50°W
45°W
40°W
35°W
30°W
25°W
20°W
15°W
10°W
5°W
0°
5°E
10°E
15°E
20°E
25°E
30°E
35°E
40°E
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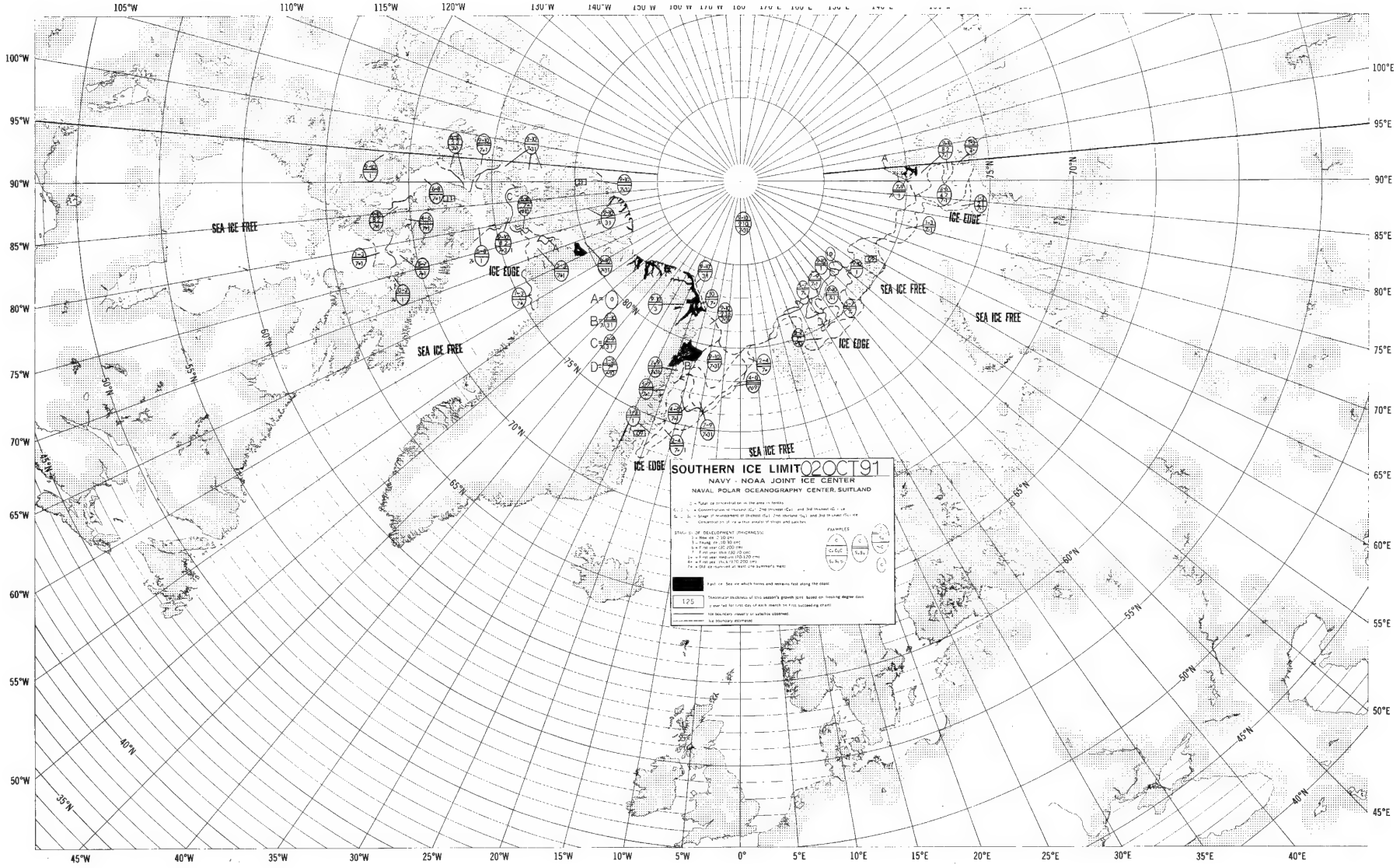
100°E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SEA ICE FREE
ICE EDGE
SEA ICE FREE
ICE EDGE
SEA ICE FREE
ICE EDGE
SEA ICE FREE
A=
B=
C=
D=
SOUTHERN ICE LIMIT 02OCT91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
125
105°W
110°W
115°W
120°W
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
50°W
45°W
40°W
35°W
30°W
25°W
20°W
15°W
10°W
5°W
0°
5°E
10°E
15°E
20°E
25°E
30°E
35°E
40°E
45°E
50°E
55°E
60°E
65°E
70°E
75°E
80°E
85°E
90°E
95°E
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75°N
70°N
65°N
60°N
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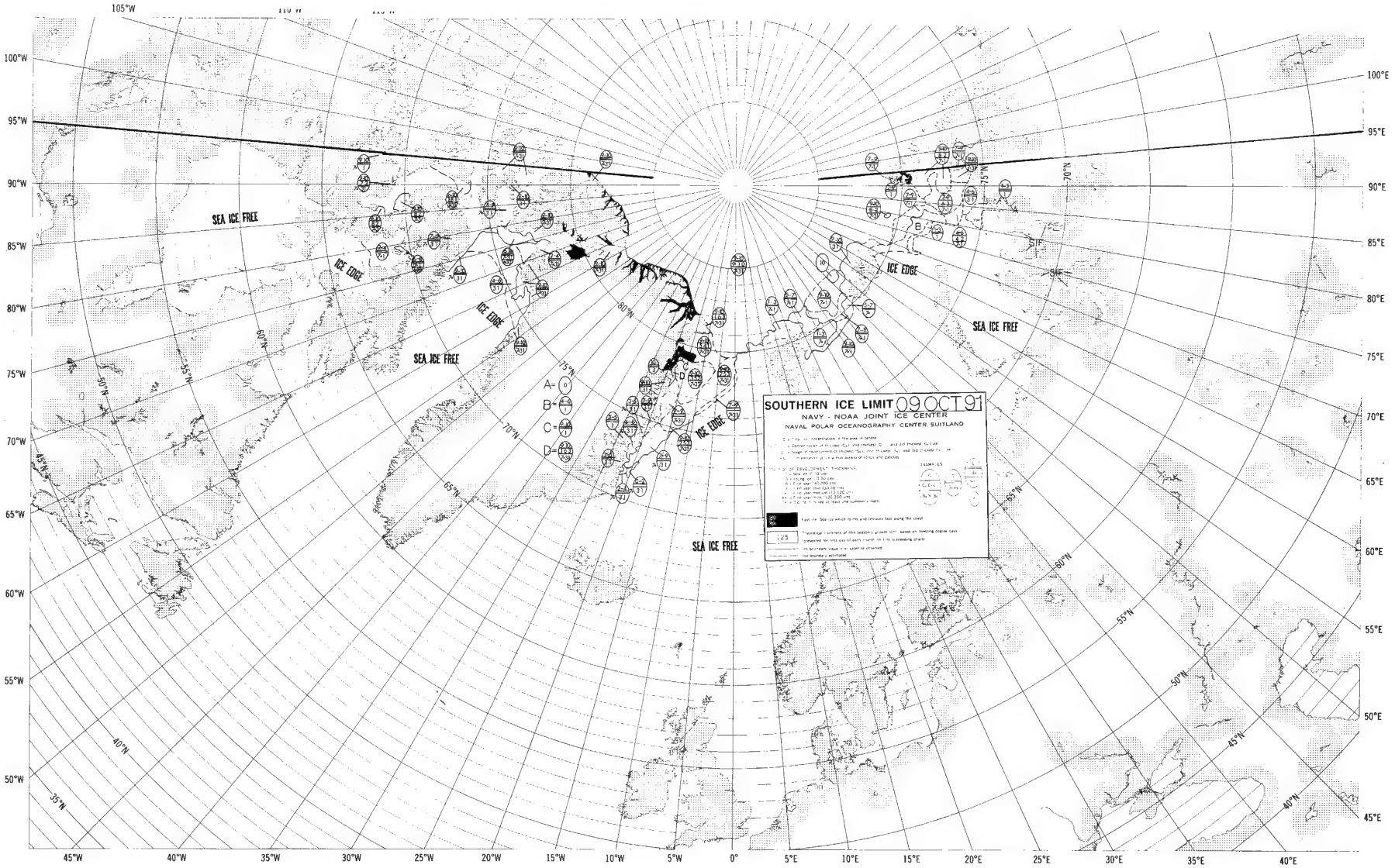
50°N
45°N
40°N
35°N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ICE EDGE
SEA ICE FREE
ICE EDGE
ICE EDGE
SEA ICE FREE
ICE EDGE
SEA ICE FREE
A=
B=
C=
D=
SOUTHERN ICE LIMIT 09 OCT 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER SUITLAND
105°W
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
50°W
45°W
40°W
35°W
30°W
25°W
20°W
15°W
10°W
5°W
0°
5°E
10°E
15°E
20°E
25°E
30°E
35°E
40°E
45°E
50°E
55°E
60°E
65°E
70°E
75°E
80°E
85°E
90°E
95°E
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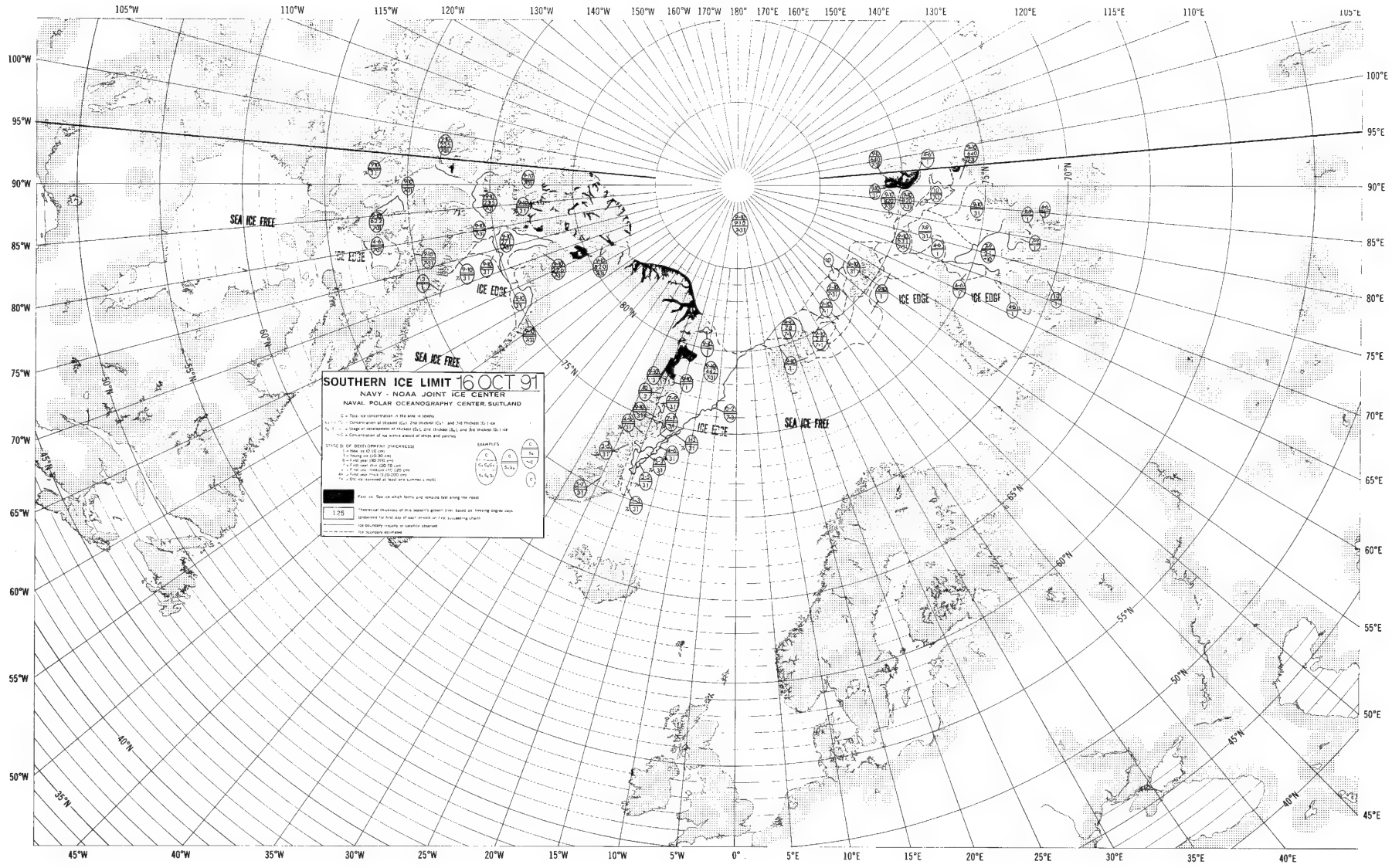
80°N
75°N
70°N
65°N
60°N
55°N
50°N
45°N
40°N
35°N


SOUTHERN ICE LIMIT 16 OCT 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SEA ICE FREE
ICE EDGE
105°W
110°W
115°W
120°W
130°W
140°W
150°W
160°W
170°W
180°
170°E
160°E
150°E
140°E
130°E
120°E
115°E
110°E
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
50°W
100°E
95°E
90°E
85°E
80°E
75°E
70°E
65°E
60°E
55°E
50°E
45°E
45°W
40°W
35°W
30°W
25°W
20°W
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0°
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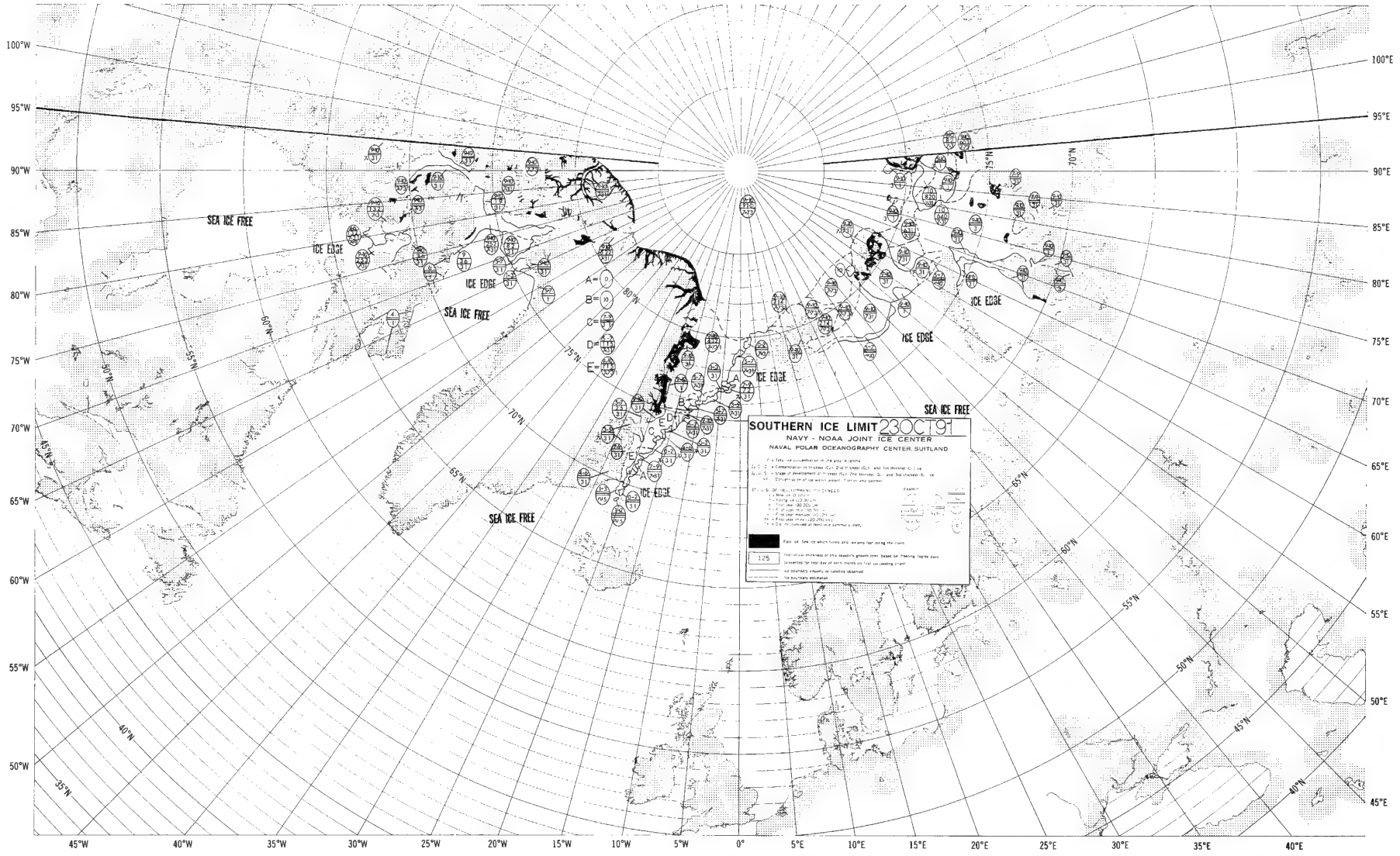
10°E
15°E
20°E
25°E
30°E
35°E
40°E


SEA ICE FREE
ICE EDGE
SEA ICE FREE
ICE EDGE
SEA ICE FREE
ICE EDGE
ICE EDGE
ICE EDGE
SEA ICE FREE
SEA ICE FREE
A=
B=
C=
D=
E=
SOUTHERN ICE LIMIT 23OCT91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
50°W
45°W
40°W
35°W
30°W
25°W
20°W
15°W
10°W
5°W
0°
5°E
10°E
15°E
20°E
25°E
30°E
35°E
40°E
45°E
50°E
55°E
60°E
65°E
70°E
75°E
80°E
85°E
90°E
95°E
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75°N
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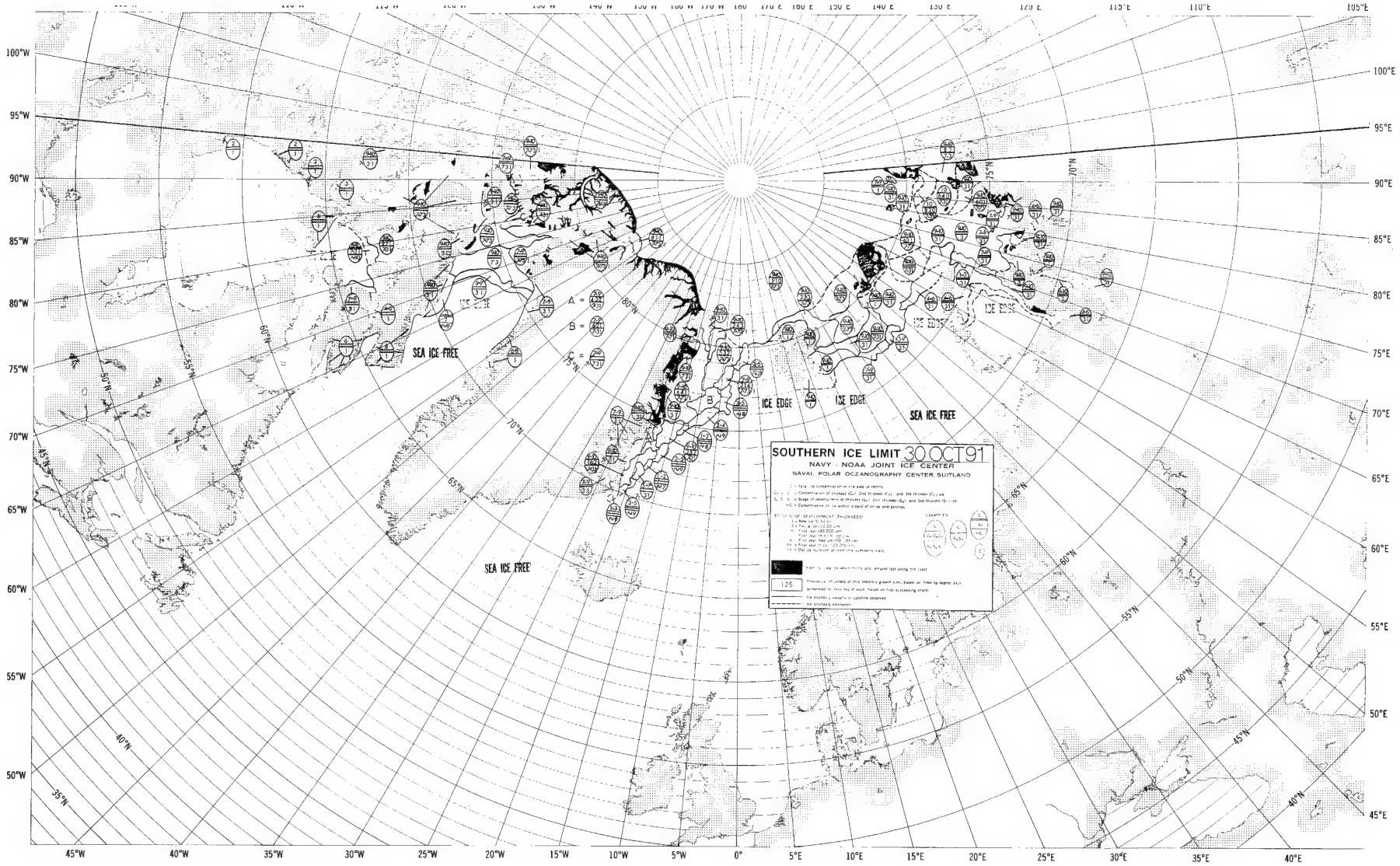
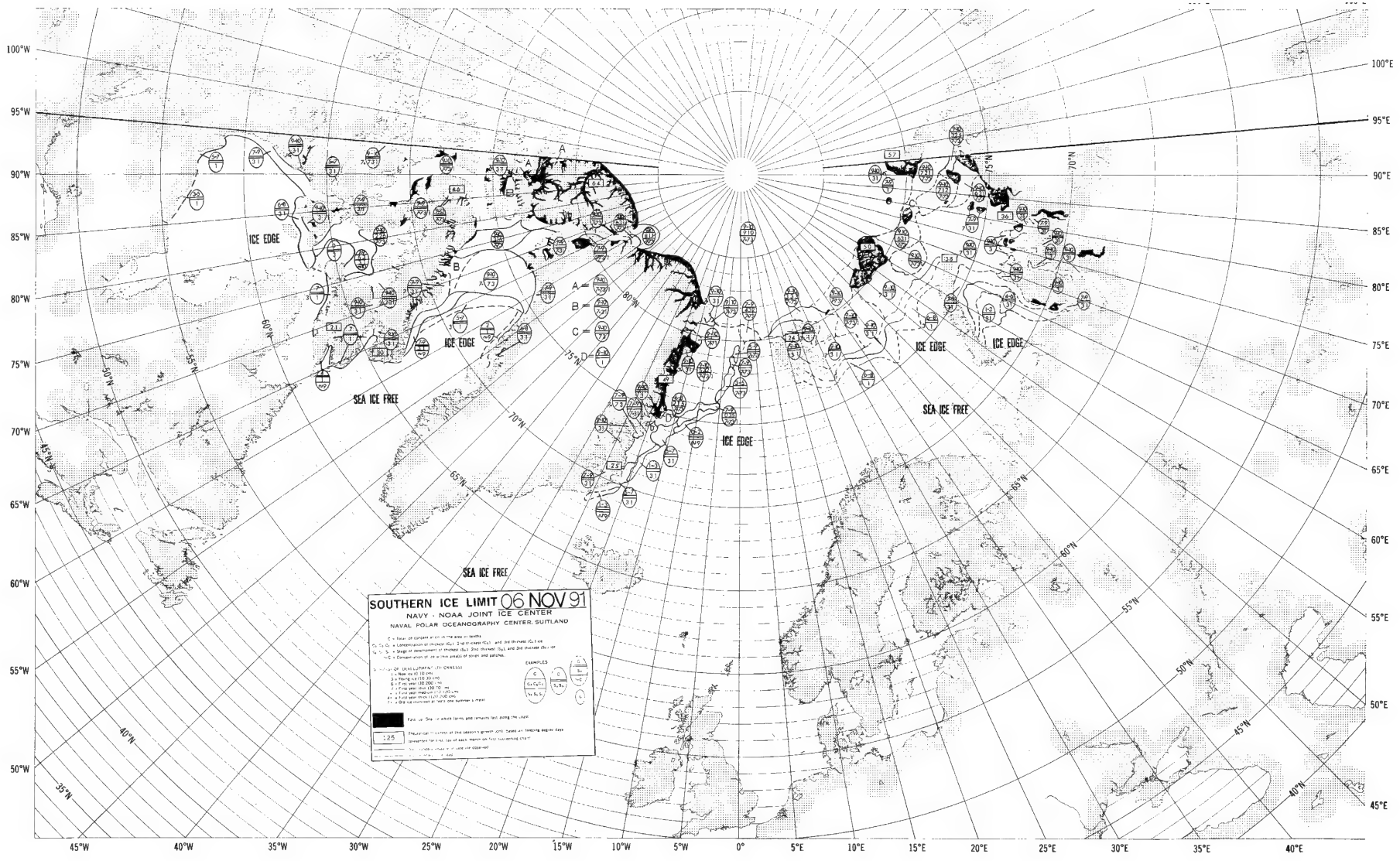
65°N
60°N
55°N
50°N
45°N
40°N
35°N


SOUTHERN ICE LIMIT 30 OCT 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SEA ICE FREE
ICE EDGE
A =
B =
C =
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
50°W
45°W
40°W
35°W
30°W
25°W
20°W
15°W
10°W
5°W
0°
5°E
10°E
15°E
20°E
25°E
30°E
35°E
40°E
45°E
50°E
55°E
60°E
65°E
70°E
75°E
80°E
85°E
90°E
95°E
100°E
105°E


ICE EDGE
SEA ICE FREE
SOUTHERN ICE LIMIT 06 NOV 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
EXAMPLES
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
50°W
45°W
40°W
35°W
30°W
25°W
20°W
15°W
10°W
5°W
0°
5°E
10°E
15°E
20°E
25°E
30°E
35°E
40°E
45°E
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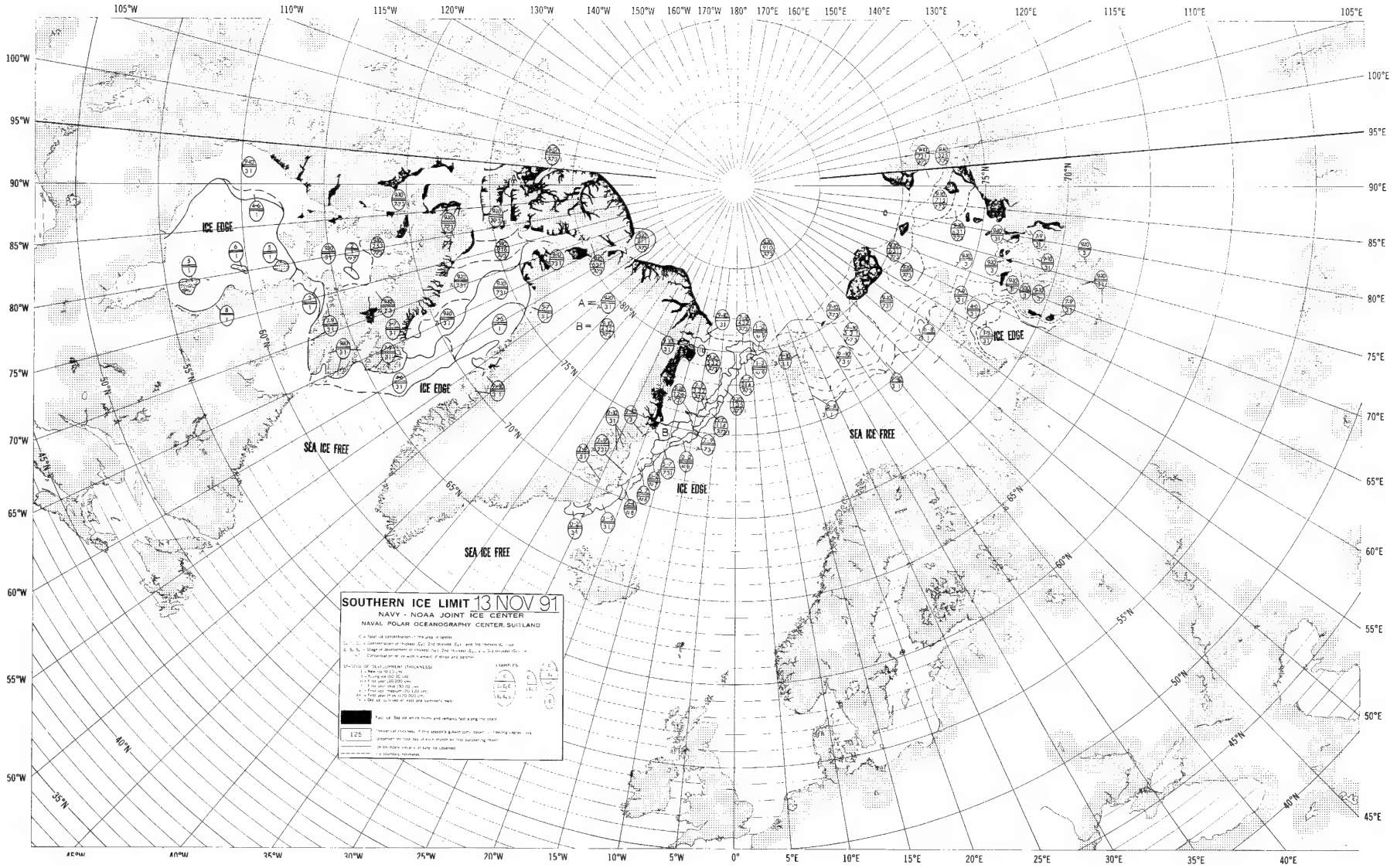
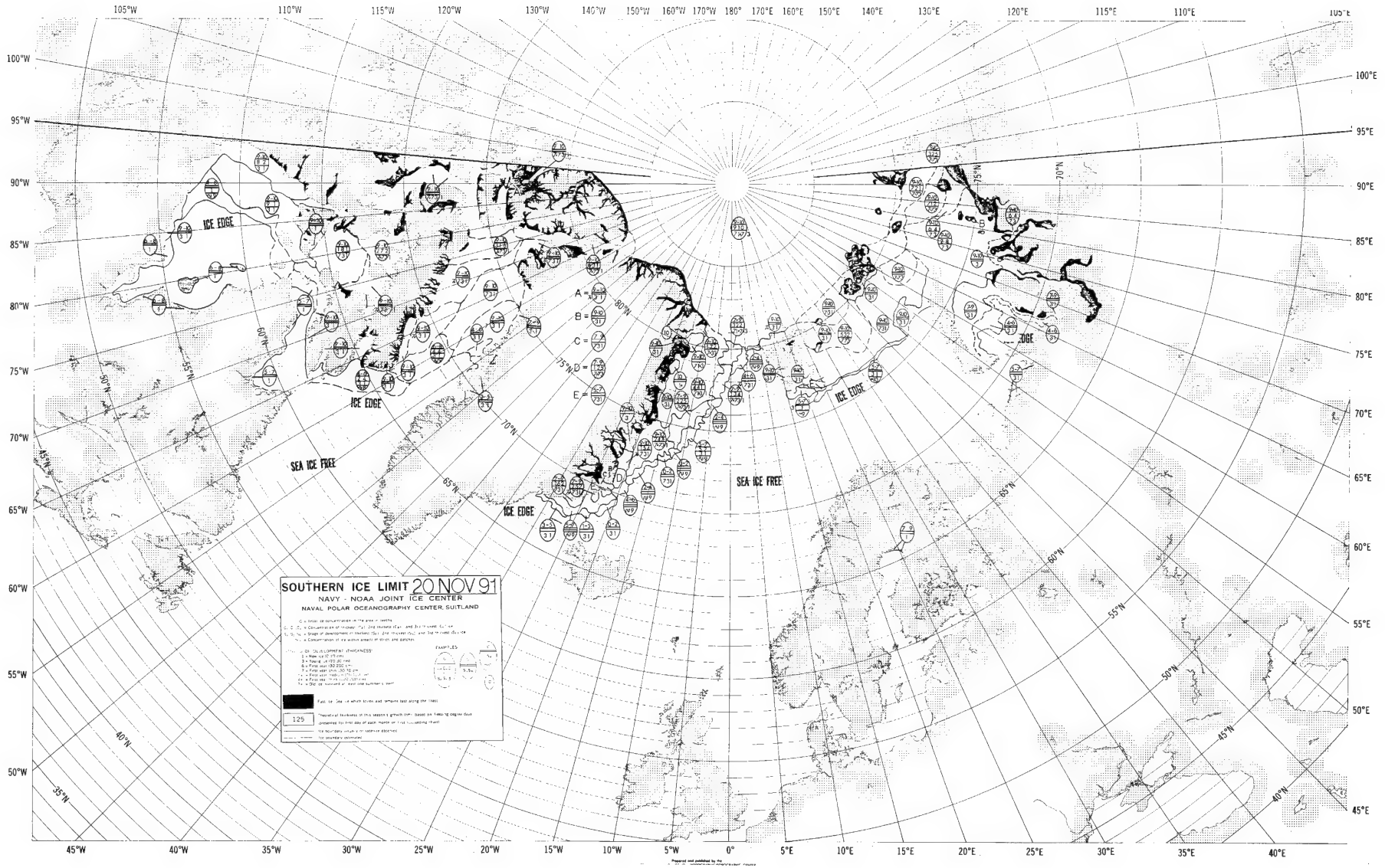
60°E
65°E
70°E
75°E
80°E
85°E
90°E
95°E
100°E


ICE EDGE
SEA ICE FREE
ICE EDGE
SEA ICE FREE
ICE EDGE
SEA ICE FREE
ICE EDGE
A =
B =
SOUTHERN ICE LIMIT 13 NOV 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
105°W
110°W
115°W
120°W
130°W
140°W
150°W
160°W
170°W
180°
170°E
160°E
150°E
140°E
130°E
120°E
115°E
110°E
105°E
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
50°W
100°E
95°E
90°E
85°E
80°E
75°E
70°E
65°E
60°E
55°E
50°E
45°E
40°W
35°W
30°W
25°W
20°W
15°W
10°W
5°W
0°
5°E
10°E
15°E
20°E
25°E
30°E
35°E
40°E
45°N
50°N
55°N
60°N
65°N
70°N
75°N
80°N


105°W
110°W
115°W
120°W
130°W
140°W
150°W
160°W
170°W
180°
170°E
160°E
150°E
140°E
130°E
120°E
115°E
110°E
105°E
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
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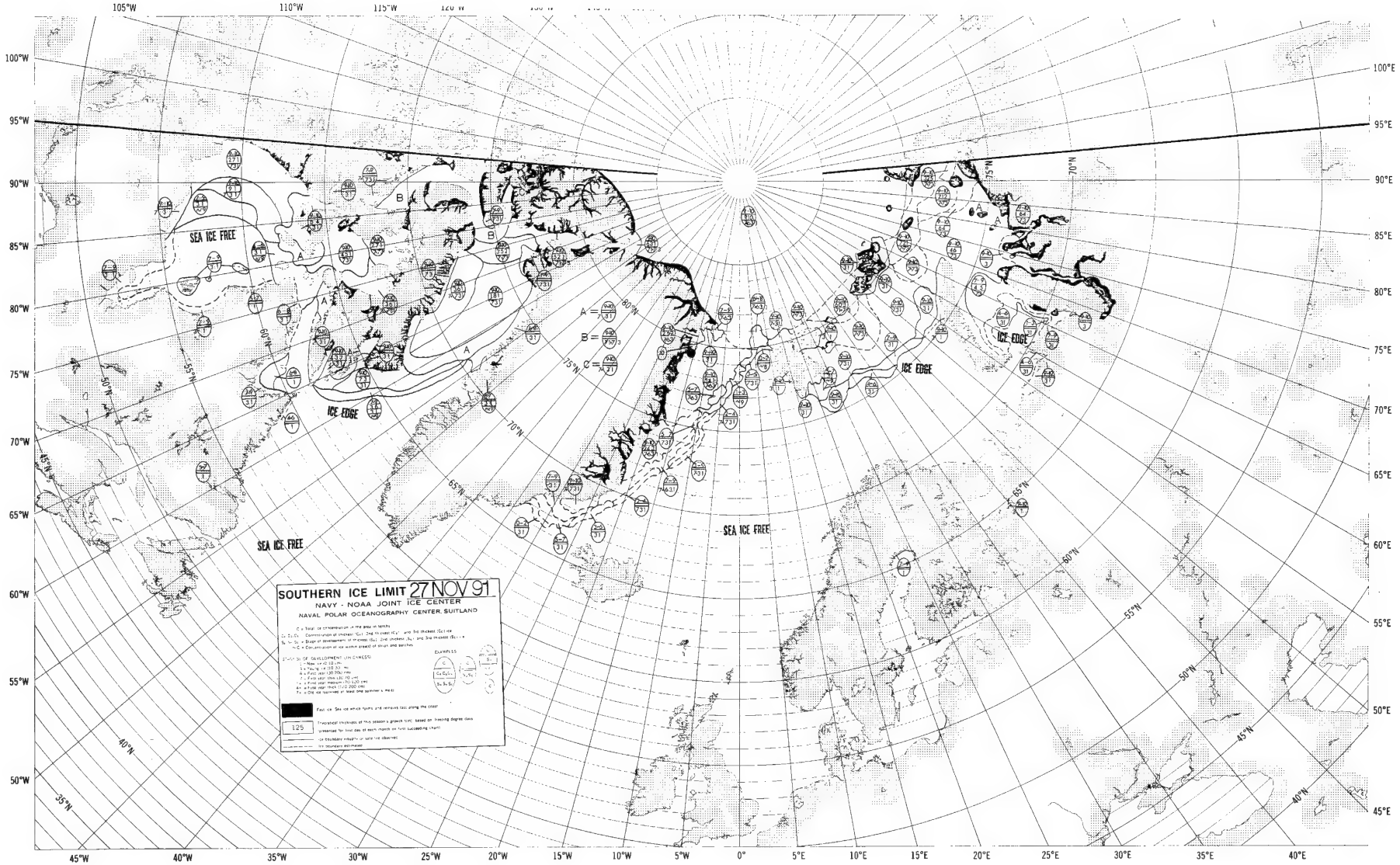
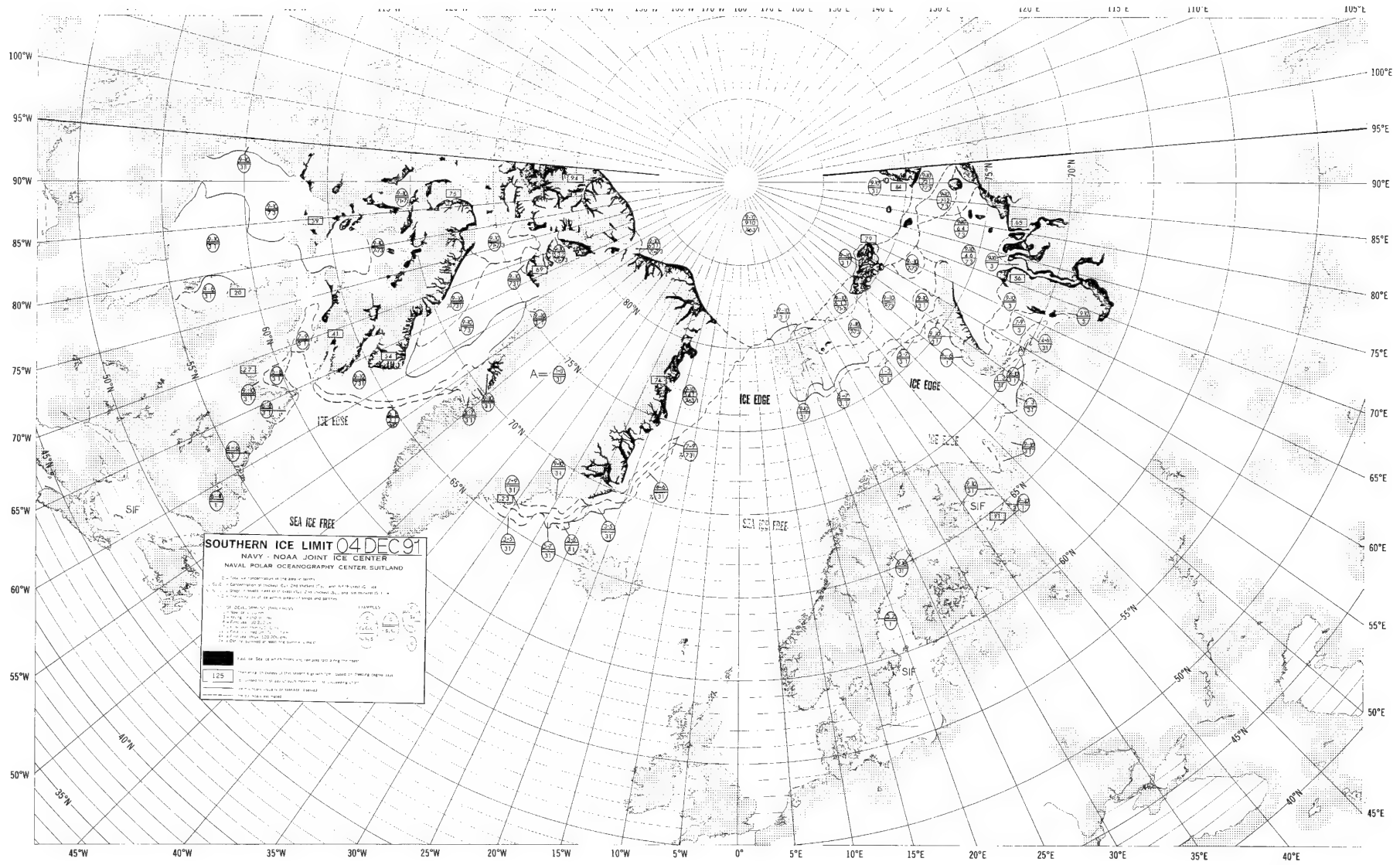
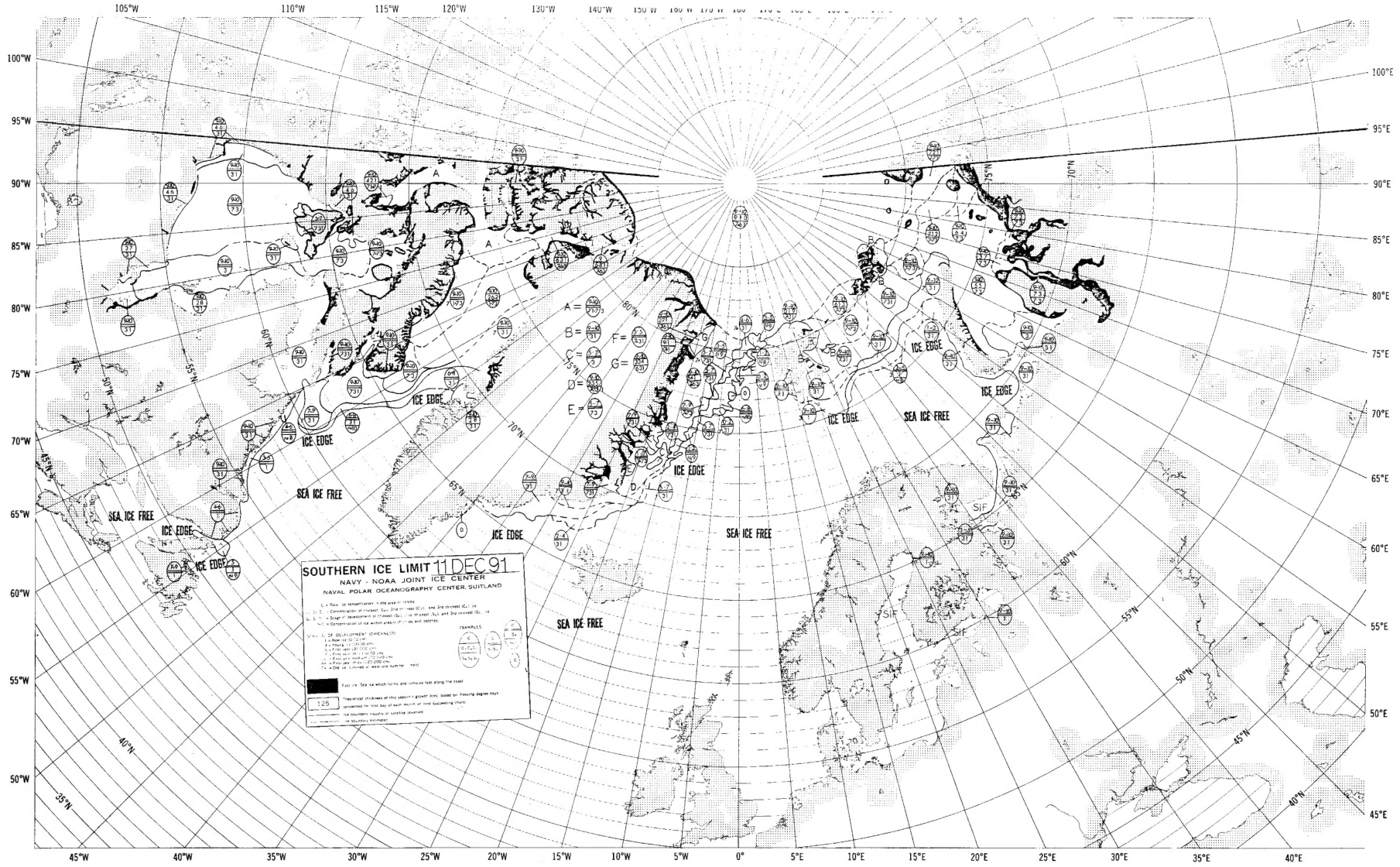
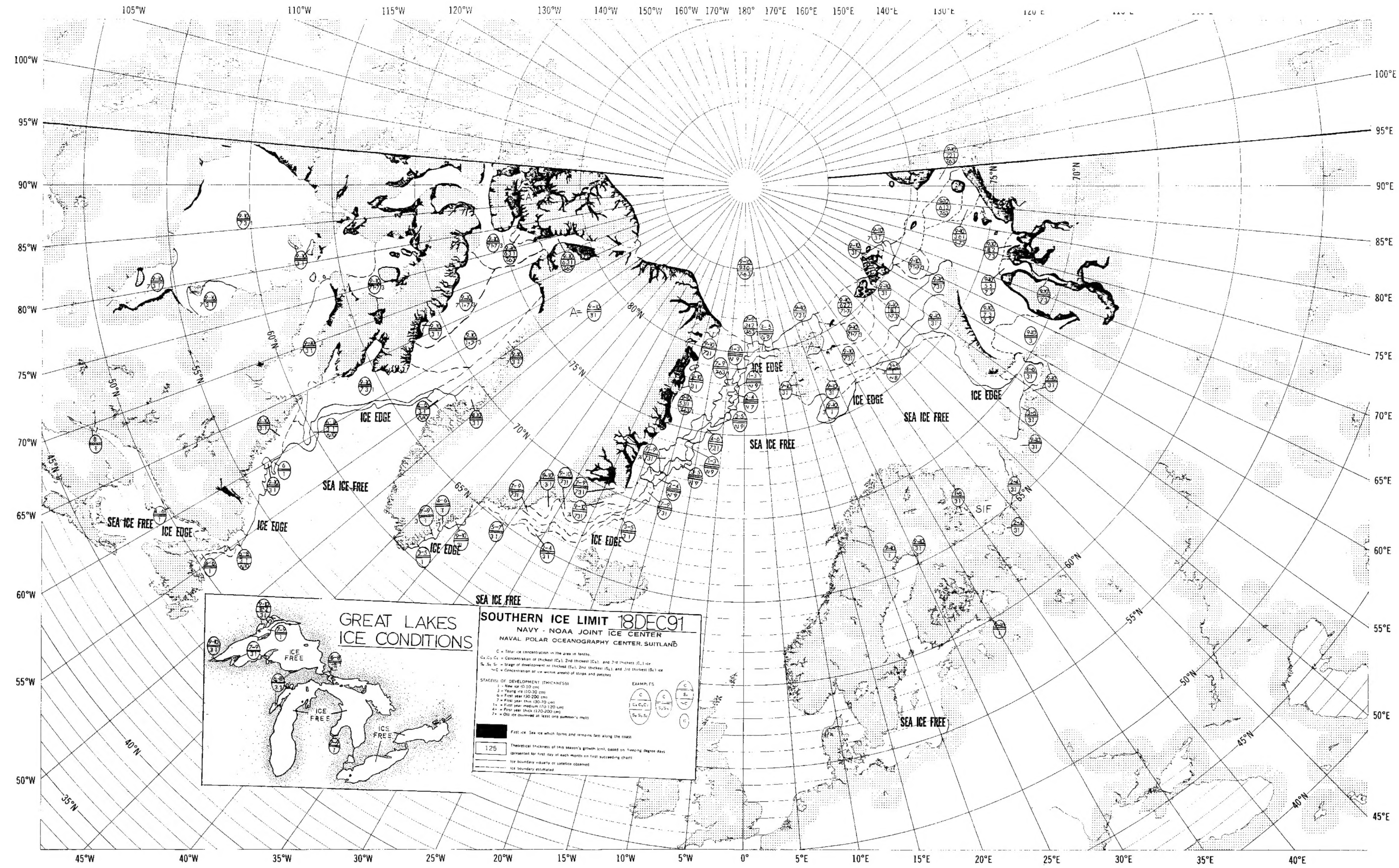
95°E
90°E
85°E
80°E
75°E
70°E
65°E
60°E
55°E
50°E
45°E
45°W
40°W
35°W
30°W
25°W
20°W
15°W
10°W
5°W
0°
5°E
10°E
15°E
20°E
25°E
30°E
35°E
40°E
ICE EDGE
SEA ICE FREE
A =
B =
C =
D =
E =
SOUTHERN ICE LIMIT 20 NOV 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND


SEA ICE FREE
ICE EDGE
SEA ICE FREE
ICE EDGE
ICE EDGE
SEA ICE FREE
SOUTHERN ICE LIMIT 27 NOV 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
105°W
110°W
115°W
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
50°W
45°W
40°W
35°W
30°W
25°W
20°W
15°W
10°W
5°W
0°
5°E
10°E
15°E
20°E
25°E
30°E
35°E
40°E
45°E
50°E
55°E
60°E
65°E
70°E
75°E
80°E
85°E
90°E
95°E
100°E
80°N
75°N
70°N
65°N
60°N
55°N
50°N
45°N
40°N
35°N


SOUTHERN ICE LIMIT 04 DEC 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE EDGE
SEA ICE FREE
SIF
A=
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
50°W
45°W
40°W
35°W
30°W
25°W
20°W
15°W
10°W
5°W
0°
5°E
10°E
15°E
20°E
25°E
30°E
35°E
40°E
45°E
50°E
55°E
60°E
65°E
70°E
75°E
80°E
85°E
90°E
95°E
100°E
105°E
110°E
115°E
120°E
80°N
75°N
70°N
65°N
60°N
55°N
50°N
45°N
40°N
35°N


SOUTHERN ICE LIMIT 11 DEC 91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE EDGE
SEA ICE FREE
SIF
A =
B =
C =
D =
E =
F =
G =


GREAT LAKES
ICE CONDITIONS
ICE FREE
SOUTHERN ICE LIMIT 18DEC91
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
C = Total ice concentration in the area in tenths.
Ca Cb Cc = Concentration of thickest (Ca), 2nd thickest (Cb), and 3rd thickest (Cc) ice
Sa Sb Sc = Stage of development of thickest (Sa), 2nd thickest (Sb), and 3rd thickest (Sc) ice
~C = Concentration of ice within area(s) of strips and patches
STAGE(S) OF DEVELOPMENT (THICKNESS)
1 = New ice (0-10 cm)
3 = Young ice (10-30 cm)
6 = First year (30-200 cm)
7 = First year thin (30-70 cm)
1+ = First year medium (70-120 cm)
4+ = First year thick (120-200 cm)
7+ = Old ice (survived at least one summer's melt)
EXAMPLES
Fast ice. Sea ice which forms and remains fast along the coast
125
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart)
Ice boundary visually or satellite observed
Ice boundary estimated
ICE EDGE
SEA ICE FREE
SIF
105°W
110°W
115°W
120°W
130°W
140°W
150°W
160°W
170°W
180°
170°E
160°E
150°E
140°E
100°W
95°W
90°W
85°W
80°W
75°W
70°W
65°W
60°W
55°W
50°W
100°E
95°E
90°E
85°E
80°E
75°E
70°E
65°E
60°E
55°E
50°E
45°E
45°W
40°W
35°W
30°W
25°W
20°W
15°W
10°W
5°W
0°
5°E
10°E
15°E
20°E
25°E
30°E
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75°N
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65°N
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55°N
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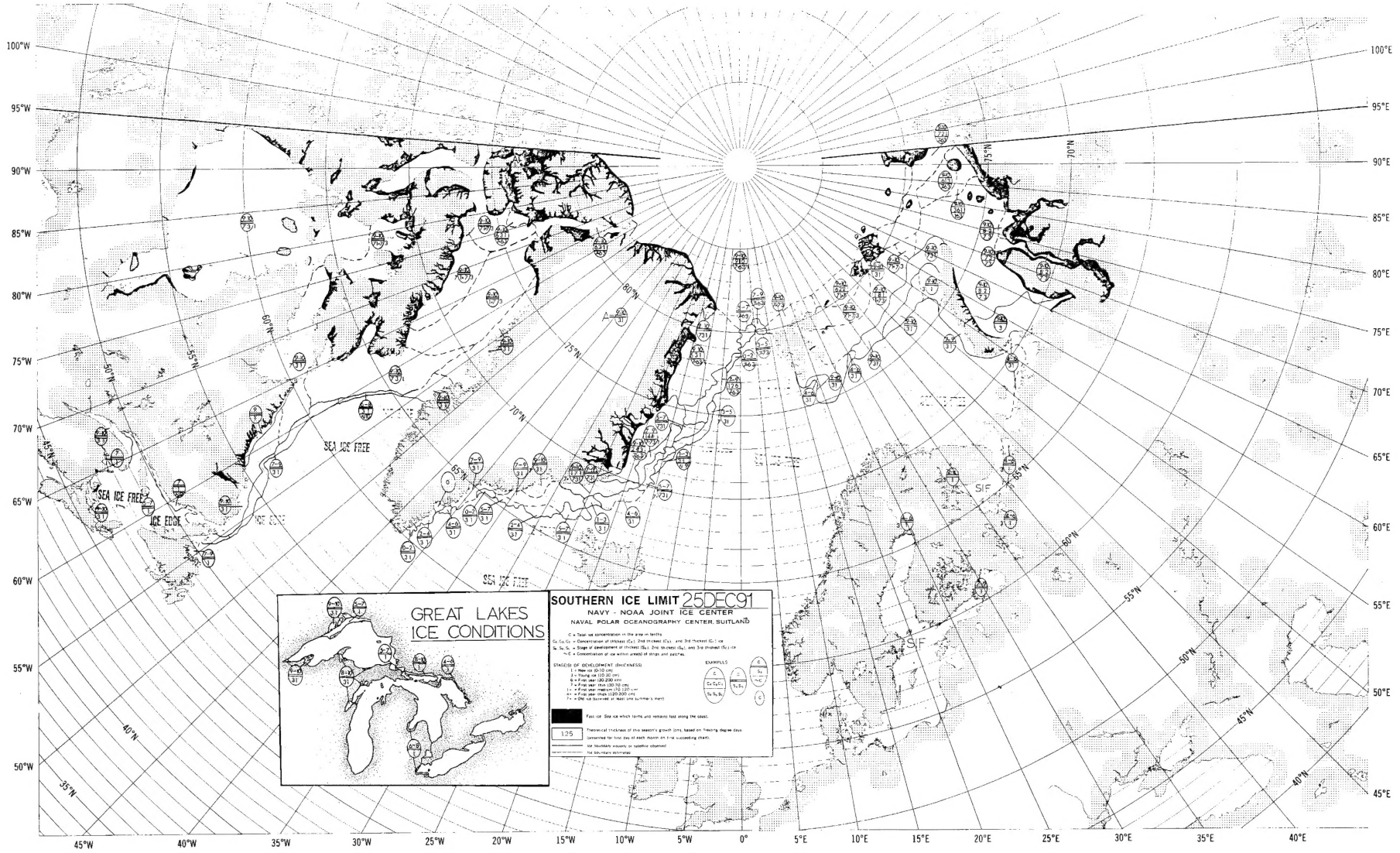
45°N
40°N
35°N



USCOMM-NOAA-ASHEVILLE, NC 3/93/250

TABLE 1. SATELLITE DATA UTILIZED DURING 1991 (ARCTIC)

Time period		Satellite Remote Sensing				
From	To	Sensor Platform	Sensor Type	Spectral Region	Resolution	Coverage
1-91	9-91	NOAA-10	AVHRR			
			HRPT/LAC			
			VIS	0.58-0.68 um	1 km	Regional
			NIR	0.725-1.10 um		
			IR	10.5-11.5 um		
			GAC			
			VIS	0.58-0.68 um	4 km	Global
			IR	10.5-11.5 um		
1-91	12-91	NOAA-11	AVHRR			
			HRPT/LAC			
			VIS	0.58-0.68 um	1 km	Regional
			NIR	0.725-1.10 um		
			IR	10.5-11.5 um		
			GAC			
			VIS	0.58-0.68 um	4 km	Regional
			IR	10.5-11.5 um		
1-91	12-91	DMSP-F (10/11)	OLS			
			VIS	0.4-1.1 um	.62 km	Regional
			IR	10.2-12.8 um	.62 km	Regional
			SSM/I			
			MW	1.55 cm (19.35 GHz)	50 km	Global
				0.81 cm (37.0 GHz)	35 km	Global
9-91	12-91	NOAA-12	AVHRR			
			HRPT/LAC			
			VIS	0.58-0.68 um	1 km	Regional
			NIR	0.725-1.10 um		
			IR	10.5-11.5 um		

Abbreviations and Acronyms

AVHRR - Advanced Very High Resolution Radiometer
cm - Centimeter
GAC - Global Area Coverage
GHz - Giga-hertz
HRPT - High Resolution Picture Transmission
IR - Infrared
km - Kilometer
LAC - Local Area Coverage
NW - Microwave
NIR - Near Infrared
OLS - Operational Line Scan System
SSM/I - Special Sensor Microwave Imager
um - Micrometer
VIS - Visible